10¢ A COPY

The OIL WEEKLY

April 1, 1927 Volume 45. No. 2

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It's a Wilson

It's Built Double Extra Heavy

Wilson Speed Elevator

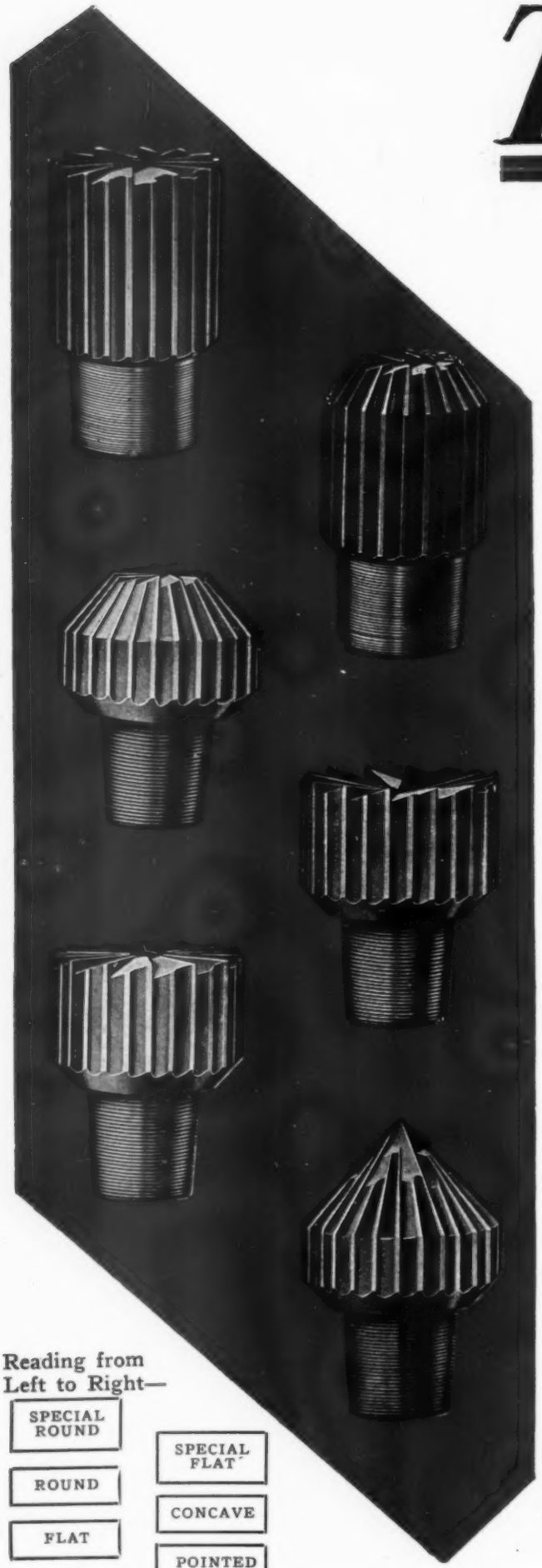
For service in wells of any depth. No other Elevator equals it in speed and simplicity of operation. Links can be released quickly. Made in all desired sizes for casing, drill pipe and tubing.

Wilson Oil Tools Corp.
DISTRIBUTORS FOR
Wilson & Willard Mfg. Co.
Factory and Distributor's Office It's a Wilson 2301 East Vernon Ave.
Los Angeles, Calif.

Sales Offices:
Tulsa, Okla., 409 Atlas Life Bldg.
Houston, Texas, 219 Post-Dispatch Bldg.
Amarillo, Texas, 1501 Polk St.

Wilson Elevators are made in two types — side-door and center-latch. Ask for literature.

Time!



EVERY minute on a milling job counts double . . . which is why you find Reed Milling Tools on jobs where they count costs close. They save time. They save a lot of time. Save time getting the milling done quickest; save time getting the drilling started again quickest. Reed Special Steel, specially hardened, makes the cut fastest; hence Reed Tools stand up longest . . . on any milling job.

Reed Milling Tools

It is good practice to keep plenty of the various Reed types, flat and concave, round and pointed, ready . . . just in case! No loss is possible, for Reed takes back unused tools at full price. Reed Milling Tools are inexpensively sharpened; or rebuilt. Therefore, their first cost is nothing to worry about. They are good for long, long service. Write in and get the catalog, which fully describes them.

REED ROLLER BIT CO.

HOUSTON
LOS ANGELES

The OIL WEEKLY. Issued weekly by the Gulf Publishing Co., 1716 Dallas Ave., Houston, Texas. Subscription price $1.00 per year; 10 cents per copy. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879.

SAND... APR 5 - 1927 ...RTER
REF'D TO

Carefree Operation

AFTER ALL, the demands that you make of your pumps are very simple. All that you ask is that in addition to doing their work properly, they operate year in and year out with a *minimum of care.*

In explaining how well GASOS meet this requirement, we need only make two statements—

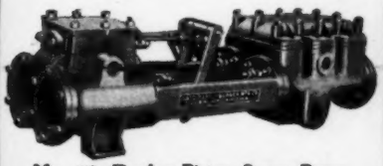
(1) GASO sales, without the aid of a high-pressure selling organization, have assumed world-wide proportions.

(2) Still another addition is being built to our plant.

Our catalog is a 64-page book of pump information. May we send you your copy?

STEAM-DRIVEN PUMPS

Correct in Design—
Long Lived—Dependable



No. 401—Duplex Piston Steam Pump (175 to 800 pounds pressure). A general service model, widely used in the handling of heavy oils. Like all Gaso models, it has *fewer* and *stronger* parts.

No 404—Gaso Duplex Piston Steam Pump for 500 to 800 pounds service. A high pressure pump, ideally suited for handling gasoline, acids, etc., under high pressure. Practically no gasket surface; *fewer* and *stronger* parts.

No. 407—Its ability to handle large capacities under high pressures has made this pump (600 to 800 pound) one of the most widely used of the Gaso line. Heavily constructed to withstand abuse. *Fewer* and *stronger* parts.

GASO PUMP & BURNER MFG. CO.
Tulsa · Oklahoma

The danger line is the wire line

The advantage of using two bearings, one on each side of the sheave, instead of one bearing in the sheave, is obvious. This construction provides a wide bearing base. The use of two bearings (Regan type) eliminates excessive wear from side drag from the crown block and prevents the rollers from wearing cone-shaped. This guarantees minimum friction in the bearings which in turn eliminates destructive slippage of the wire lines. As a result the life of the wire lines is greatly lengthened.

Regan

Forge & Engineering Co.

San Pedro California

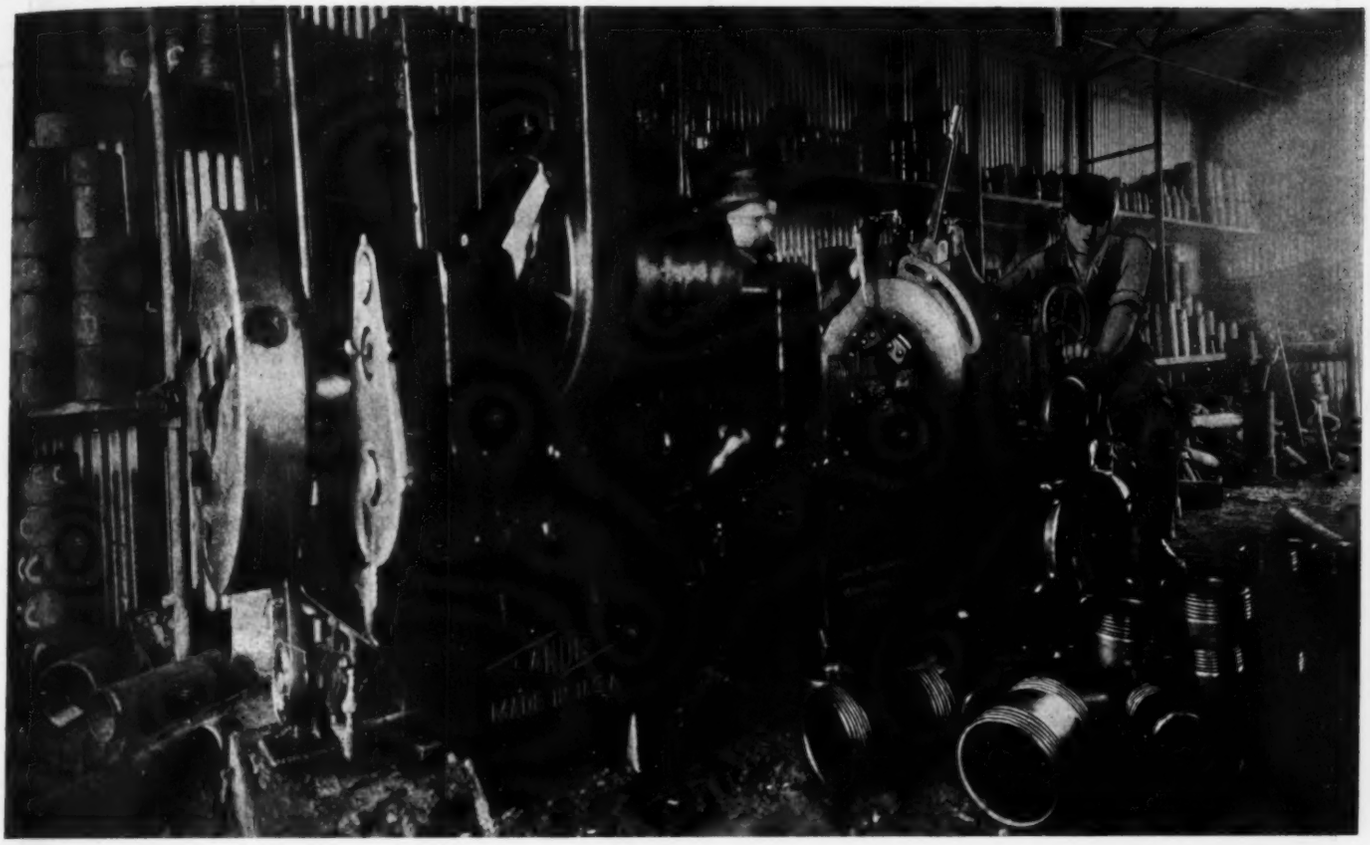
Oklahoma City, Okla.
531 West Main Street.

Houston, Texas.
1521 Post Dispatch Bldg.

Maracaibo, Venezuela.
Wm. Adams, care Amer. Consul.

New York City.
75 West Street.
Wm. Braat, Manager

"It's a Peach of a Thread"



This photograph was taken in the plant of the Eureka Tool Co., Ranger, Texas. Every shop in Ranger has Landis Pipe Machines. Ask Why?

That's what the operator said when this photograph was taken. And he knew threads. He had worked in many fields and had used different makes of pipe machines. He banked on the Landis to give a consistent production of good threads.

For re-threading pipe and casing, the Landis Pipe Threading and Cutting Machine has been proven to be the only one that will give day-in and day-out satisfaction. Its refined yet rugged construction makes repairs almost unnecessary. The distinctive design of the Landis chaser insures good threads, high production and low cost of upkeep.

CONSIDER THESE FEATURES:

Variable rake angle, which permits the chasers to be ground to suit the material being threaded.

Line contact between chaser and pipe, which permits of high cutting speeds. Interchangeability, any one or a set of chasers can be replaced without renewing the entire set.

The simple grinding feature. When chasers are dull, merely grind them on the cutting end. Annealing, re-cutting and rehardening unncessary.

The long life. A set of Landis will outlast twenty sets of any other type.

Take advantage of these and many other profit giving features. Install the Landis now and be through with threading troubles and losses.

Get our latest catalog No. 29.

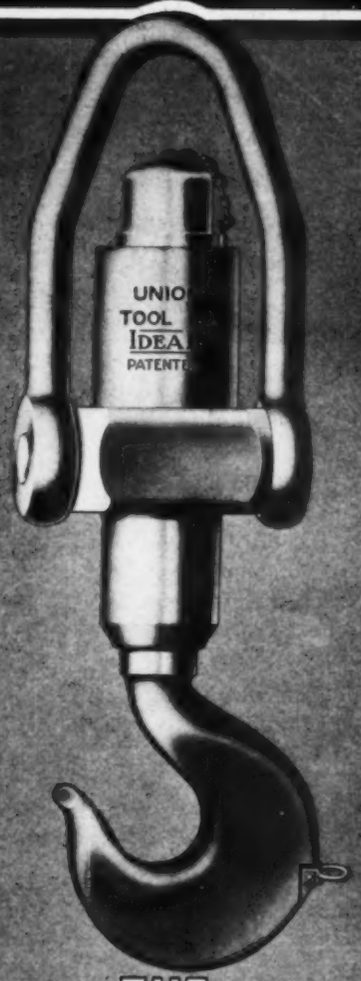
LANDIS TRADE — MARK

Landis Machine Co., Inc., Waynesboro, Penna.

Detroit Office: 5928 Second Blvd.

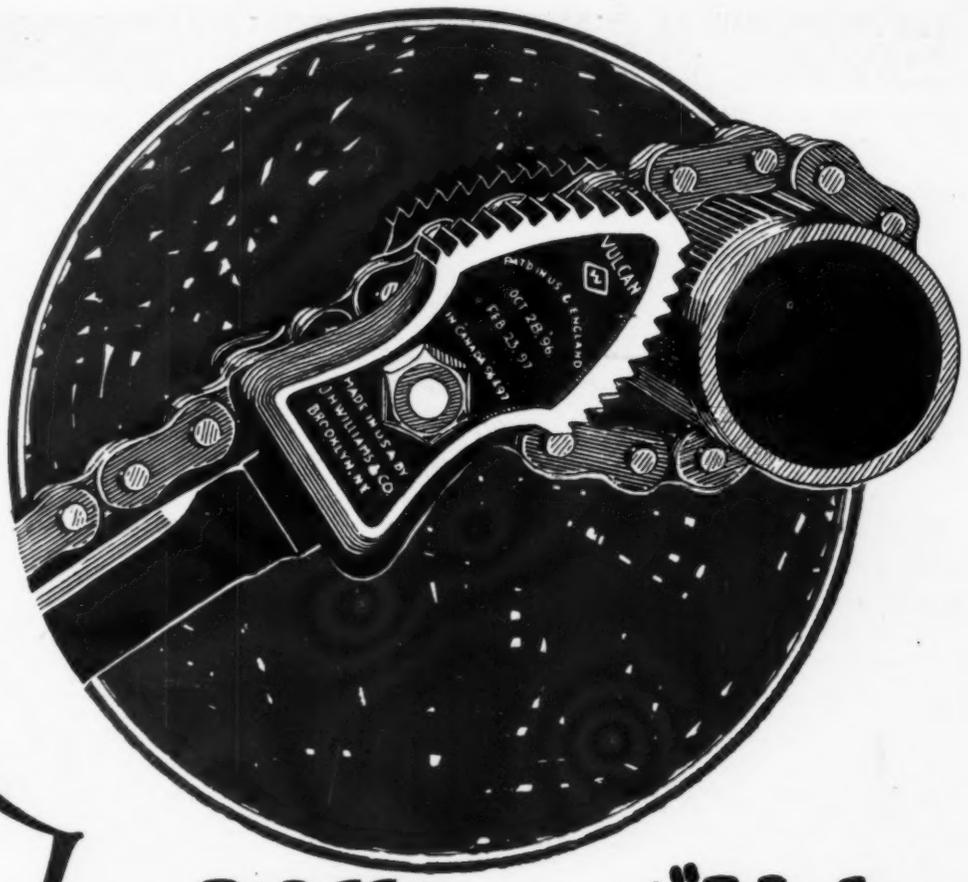
Say you saw it in The OIL WEEKLY

IDEAL
SPRING CASING HOOK

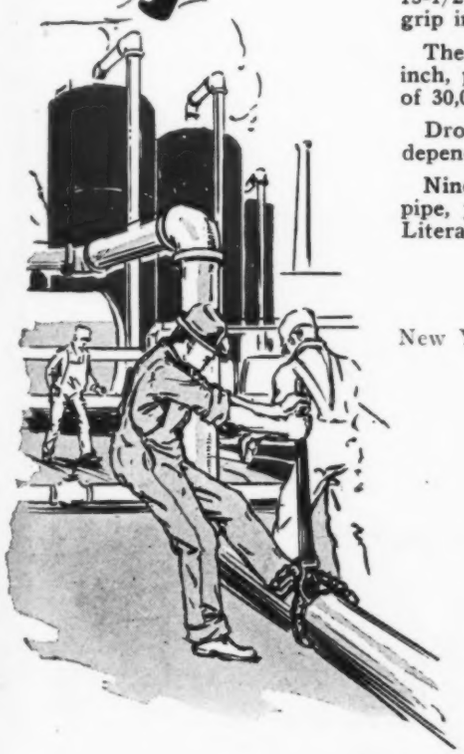


THE
NATIONAL SUPPLY
COMPANIES

Say you saw it in The OIL WEEKLY



Try Williams' "Vulcan" No. 15½ on 16 inch pipe!



Swing the chain of the GENUINE "Vulcan" Pipe Tongs No. 15-1/2 around a 16 inch pipe. You can feel its saw-tempered teeth grip instantly, yet it releases readily.

The "Vulcan" No. 15-1/2 is made for use on large pipe. Its 68 inch, proof-tested and CERTIFIED chain will withstand a pressure of 30,000 lbs. There's strength that's hard to equal.

Drop-forged from carefully selected steel, here's an efficient and dependable tool that will be on the job year after year.

Nine sizes for 1/8 to 18-inch pipe. If your work includes 16-inch pipe, your equipment should include the NEW "Vulcan" No. 15½. Literature upon request.

J. H. WILLIAMS & CO.

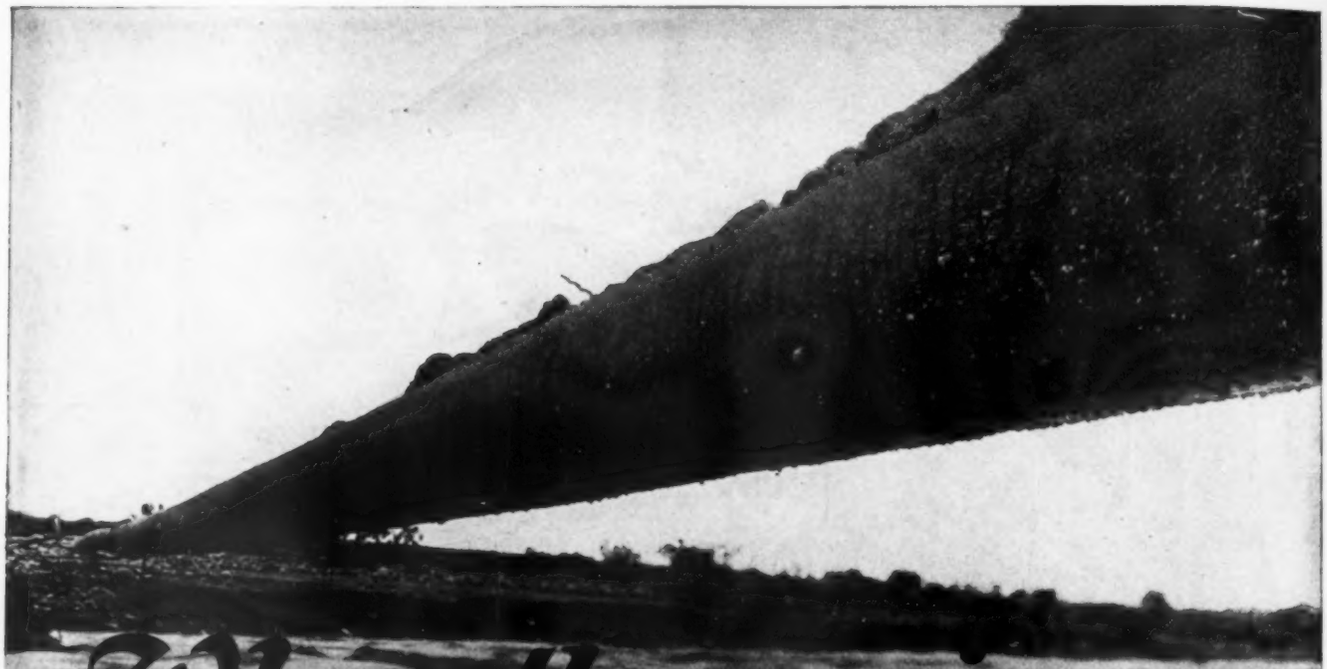
"The Wrench People"

New York BUFFALO Chicago

GENUINE WILLIAMS

SUPERIOR DROP-FORGED TOOLS

"VULCAN" CHAIN PIPE TONGS



When the raging flood subsided!

"National" Quality was again proved

Thundering, raging waters, pouring in terrific torrents from the Big Tujunda mountains—ripping trees and rocks—menacing all in their path—pounded in all their fury against this "NATIONAL" Pipe Line of a Southern California gas company.

Against these overwhelming odds, "NATIONAL" fought a magnificent battle, holding the terrific force of the thundering water, ties and powerful debris—the strength of it was the outstanding feature of the storm. Again and again as the storm rose and quieted down and the raging flood subsided, "NATIONAL" still was there. Not until a railroad trestle, 500 feet above the main, collapsed and was swept against the pipe, did its powerful strength give way. For an hour and a half it battled even these tons and tons of debris and timbers—finally breaking at the welded joint. Here is acknowledged proof of the quality of "NATIONAL" Pipe.

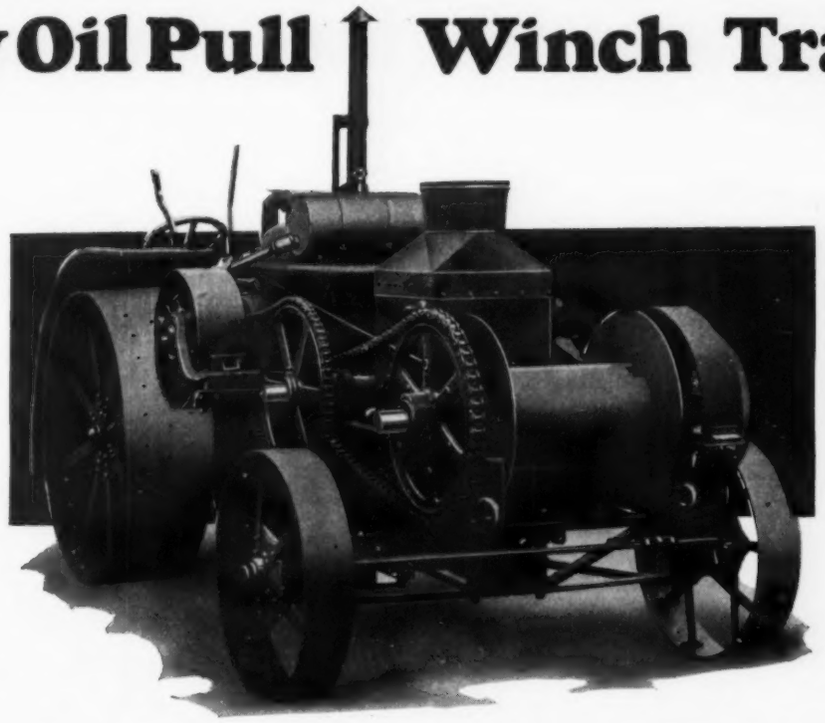
NATIONAL

NATIONAL TUBE COMPANY, PITTSBURGH, PA.

District Sales Offices in The Larger Cities

Say you saw it in The OIL WEEKLY

Rumley Oil Pull Winch Tractor



RUMLEY OILPULL WINCH TRACTOR, built complete and especially for Oil Field work. Large heavy duty, very slow speed motor direct drive by heavy roller chain from crank shaft to winch drum, with heavy shoe clutch mounted direct on end of crank shaft. Thereby eliminating all transmissions, friction clutches or other complicated mechanical parts. We have used this same drive for six years without any mechanical trouble at all.

Specifications for Winch Tractor

Line Hoisting Speed (Auxiliary Drum)	250 ft. per min
Drum Hoisting Speed	40 R. P. M.
Line Lowering Speed (connected to engine)	450 ft. per min.
Drum Lowering Speed (connected to engine)	103 R. P. M.
Diameter of Drum	13 inches
Diameter of Auxiliary Drum	20 inches
Length of Drum Between Flanges	24 inches
Width of Flange	7½ inches
Line Capacity of Drum	2500 ft. ¾ in. Wire Line 3800 ft. 9/16 in. Wire Line 4100 ft. ½ in. Wire Line
Diameter of Drum Shaft (30-40 Carbon Steel Ground)	3¼ inches
Diameter of Brake Wheel	28 inches
Width of Brake Wheel	6 inches
Effective Brake Band Area	420 square inches
Diameter of Countershaft	2⅝ inches
Size of Drive Chain (1st reduction) (American Standard Roller Chain) cotter pin type	1¼-inch pitch
Size of Drive Chain (2nd reduction) (American Standard Roller Chain) cotter pin type	1¾-inch pitch
Width of Reverse Belt (Four-Ply Fabric Belt)	4 inches
Speed Reduction Ratio, Engine to Drum (Hoisting) std.	15.8 to 1
Speed Reduction Ratio, Engine to Drum (Lowering)	6.15 to 1
Size of Winch Support Channels	10-inch

A partial list of oil producing Companies using from one to fifty Oilpull Winches

American Eagle Oil Company
Amerada Petroleum Corporation
Barnsdall Oil Company
Comar Oil Company
Carter Oil Company
Continental Oil Company
Dixie Oil Company
Devonian Oil Company
Empire Gas and Fuel Company
F. W. Merrick Oil Company
J. A. Hull Oil Company
Kingwood Oil Company
Midland Oil Company
Marland Oil Company of Texas

For full information and catalogues, write or call

Fred E. Cooper

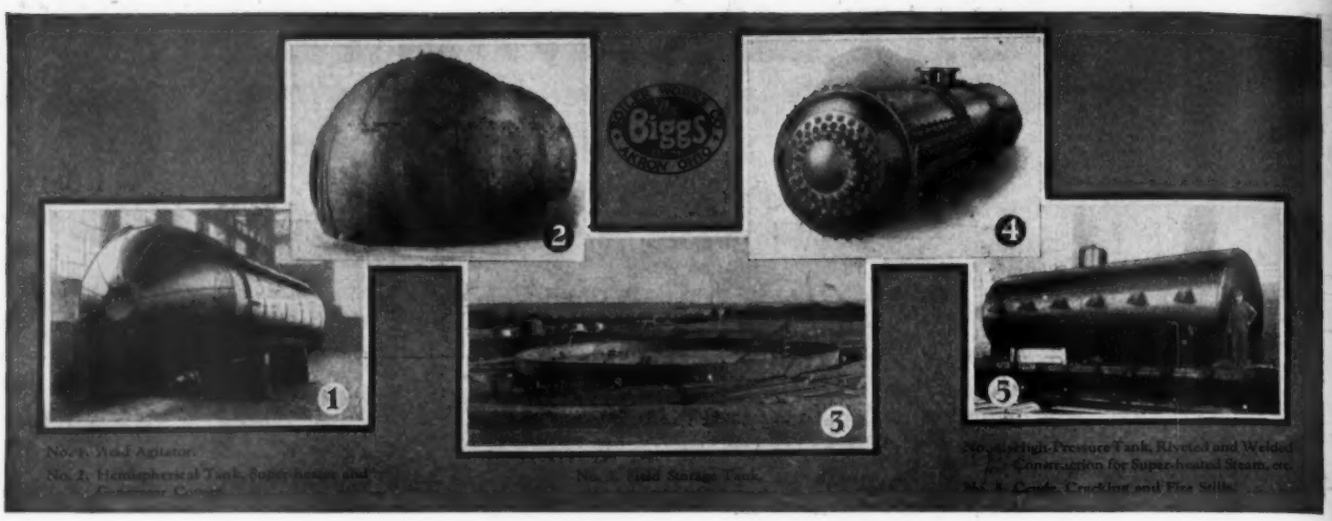
Special Oil Field Representative and Winch Developer

18 South Madison, Tulsa, Oklahoma.

Phone 8904

A partial list of oil producing Companies using from one to fifty Oilpull Winches

Pure Oil Company
Pennok Oil Company
Phillips Petroleum Company
Roxana Petroleum Corporation
Roth Faurot and Manhattan Oil Company
Skelly Oil Company
Shaffer Oil and Refining Company
Sun Oil Company
Texas Oil Company
Twinstate Oil Company
Wentz Oil Company
H. F. Wilcox Oil and Gas Co.
Wolverine Petroleum Corporation



Built To "Stand The Gaff"—

Biggs Equipment for Producer and Refiner Will survive those Gruelling Tests

Equipment, to win the endorsement of producers and refiners, must often resist the most severe tests imaginable. That's why we build Biggs products to "stand the gaff".

Biggs Pressure Tanks, for instance, have in actual tests withstood forces dangerously above rated capacities. Little wonder, is it, that they are the choice of knowing oil men?

Such is the manner of tests often applied to Biggs producing and refining equipment and it is with such gruelling tests in mind that we construct Biggs tanks, agitators, stills and other steel plate equipment to be just a bit better than the best.

However, ability to "stand the gaff" is not the only sales argument for Biggs equipment. There's price, delivery and guarantee—all of first interest to the prospective buyer—and all recognized by Biggs as buying factors.

Whether or not you are in the market at this time, you will be interested in our leaflet, "What Biggs Does and How", pictorially explaining our processes of manufacture.

Manufacturers of

- Pressure Stills for Cracking Process
- Fractionating Towers
- Dephlegmating Towers
- Bubble Towers
- Heat Exchangers
- Agitators
- Steam Stills
- Crude Stills
- Condenser Boxes
- Run Down Tanks
- Blending Tanks
- Hemispherical Tanks
- Blow Cases
- Acid Tanks
- Compounding Kettles
- Storage Tanks to 80,000 Barrels
- Smoke Stacks and Breechings, etc.

THE BIGGS BOILER WORKS COMPANY

Eastern Sales Office:
300 Madison Avenue, New York City

General Office and Works — Akron 24, Ohio

Please attach to your letterhead

THE BIGGS BOILER WORKS COMPANY
Akron 24, Ohio

Send "What Biggs Does and How" to

NAME.....

.....

We are particularly interested in

.....

.....

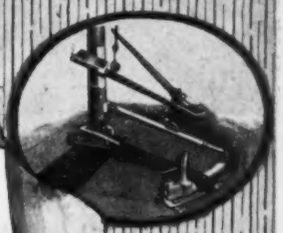
The Biggs Boiler Works Co. Akron Ohio Est 1881 — TRADE MARK REGISTERED

TANKS AND GENERAL
STEEL PLATE WORK
for the Oil Industry

[DUNN TOOLAGRAM]

OIL WELL DUNN TOOLS

Advancement



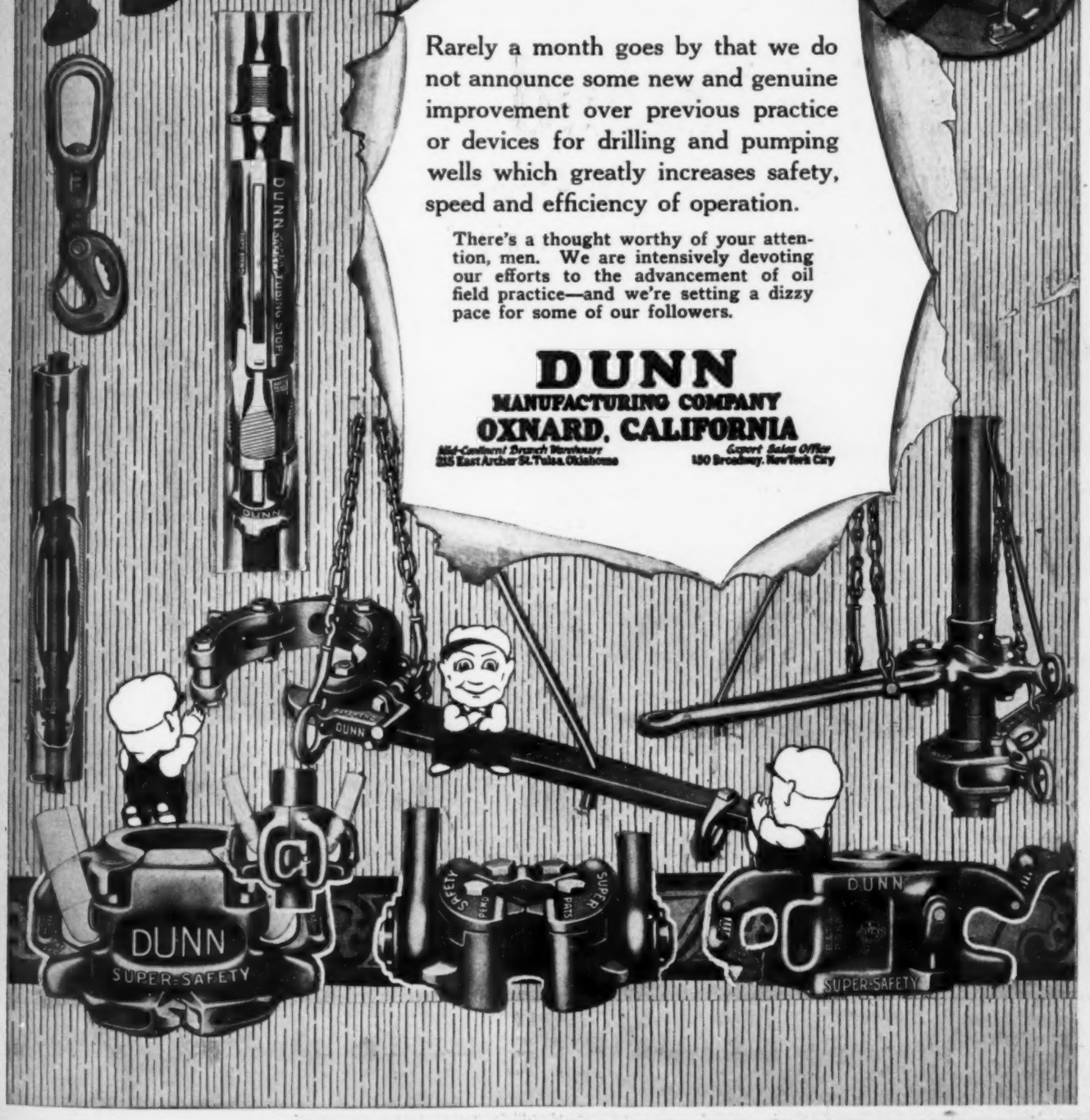
Rarely a month goes by that we do not announce some new and genuine improvement over previous practice or devices for drilling and pumping wells which greatly increases safety, speed and efficiency of operation.

There's a thought worthy of your attention, men. We are intensively devoting our efforts to the advancement of oil field practice—and we're setting a dizzy pace for some of our followers.

DUNN
MANUFACTURING COMPANY
OXNARD, CALIFORNIA

Mid-Continent Branch Warehouse
215 East Archer St. Tulsa, Oklahoma

Export Sales Office
150 Broadway, New York City



[DUNN TOOLAGRAM]

Safe-Clean-Simple

Dunn Safety TUBING BLEEDER

A fair trial without obligation, will convince you that the Dunn Safety Tubing Bleeder will give you a clean, dry pulling job, save you time, labor and reduce your fire hazard. It will save enough oil wasted on wet tubing jobs to pay for itself very quickly.

It is simple in design—positive in operation. Is an efficient safety as well as a saving device. Will "bleed" even though the well sands up completely above it.

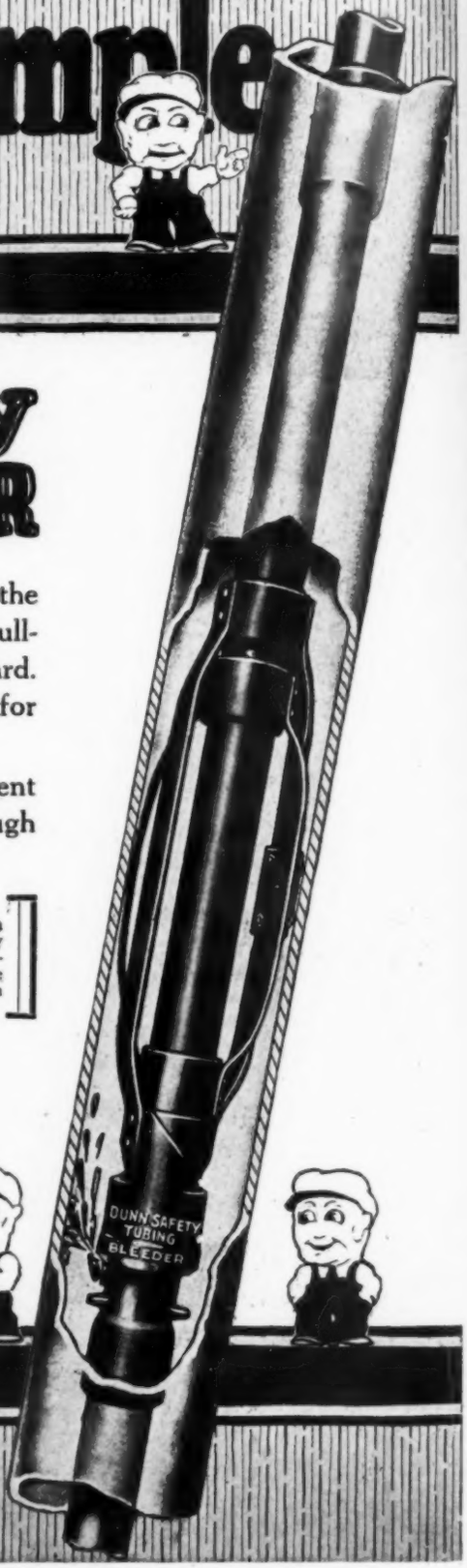
TRY IT AT OUR RISK

Put a Dunn Safety Tubing Bleeder in your well and use it on your next pulling job. If it fails to do all that we claim for it, return at our expense for full credit.

WHAT IT DOES

Prevents a wet job, insuring a clean, dry one. Promotes safety and minimizes the fire hazard. Improves working conditions and the morale of your crew. Saves enough to pay for itself very quickly.

Descriptive Folder on Request



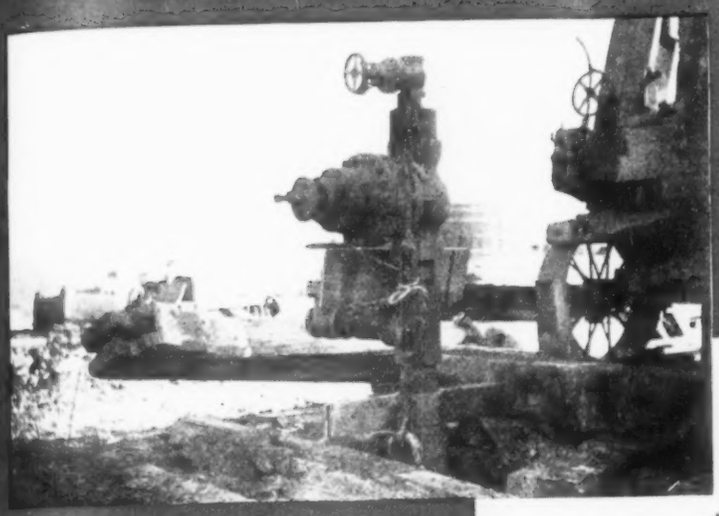
DUNN
MANUFACTURING COMPANY
OXNARD, CALIFORNIA

Mid-Continent Branch Warehouse
215 East Archer St. Tulsa, Oklahoma

Export Sales Office
150 Broadway, New York City

OIL WELL DUNN TOOLS

HARNESSING FORTUNES IN OIL WITH KEROTEST



World Wide Confidence Founded on Unfailing Performance

Oil men are exceedingly particular and exacting about the drilling valves they use, and no wonder, when you consider the days and weeks of patient drilling and the thousands of dollars spent to reach the pay sand.

That Kerotest Valves enjoy the confidence of thousands of operators throughout the world is a tribute to their super-strength and unfailing performance.

Built to the most exacting standards of workmanship, carefully tested with Kerosene to assure perfect steel texture and certified for 2500 lbs. pressure strength by the Pittsburgh Testing Laboratory, you can appreciate why Kerotests create confidence.

Kerotest Manufacturing Company

Pittsburgh, Penna.

Carried in stock and sold by

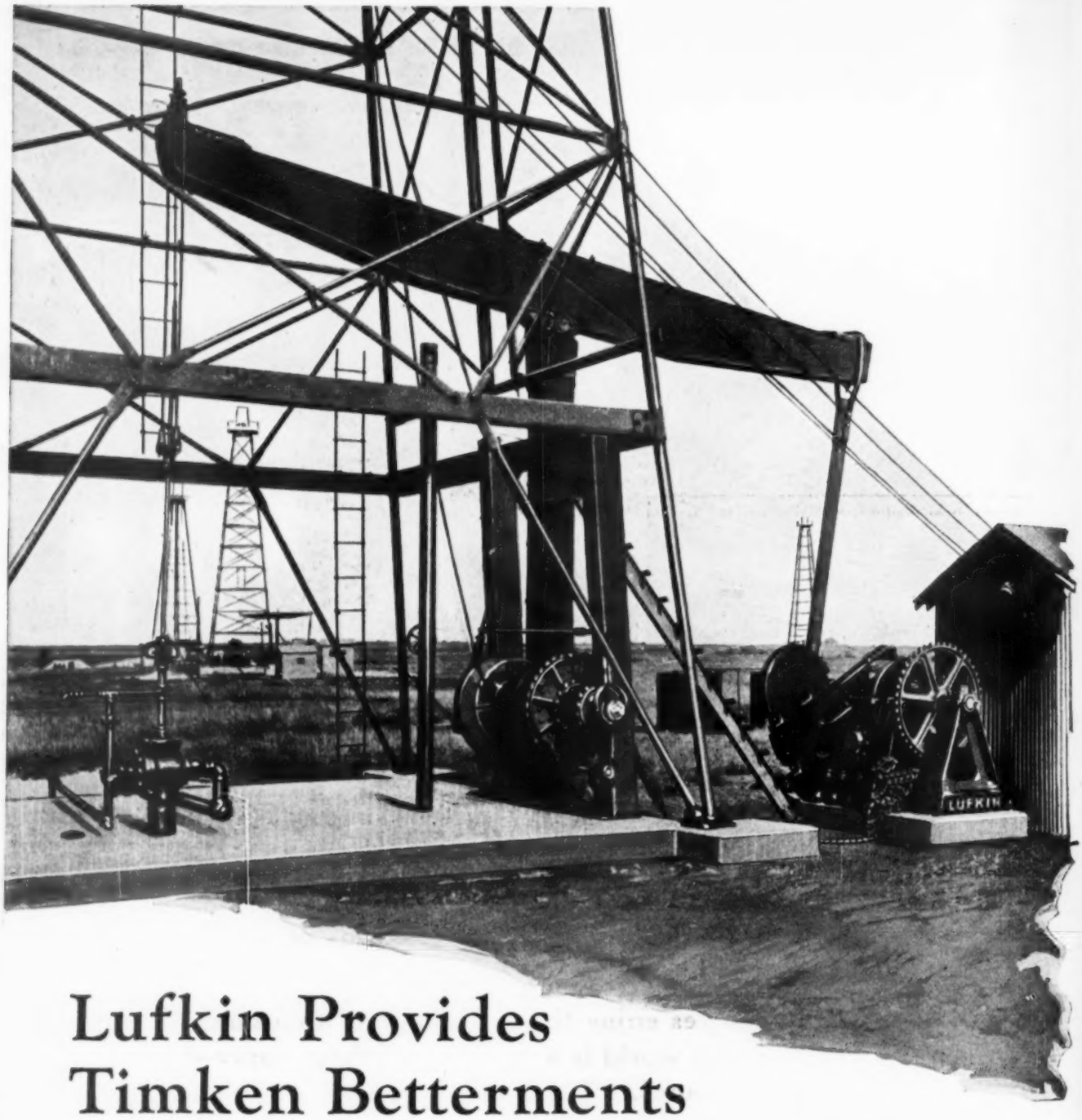
GRINNELL COMPANY OF THE PACIFIC
Los Angeles San Francisco

NORVELL-WILDER HARDWARE COMPANY
Houston Beaumont Shreveport Fort Worth

OIL WELL SUPPLY COMPANY
Oklahoma Kansas Colorado Wyoming

Export Distributors:

OIL WELL SUPPLY COMPANY
Pittsburgh New York Tampico London



Lufkin Provides Timken Betterments

Pump units get the drive of an engine on one side, and the tug of the crank on the other. Pump unit bearings come in for merciless shock, thrust, torque, and weight. Bearing failure is too costly to risk. Therefore this responsible job goes to Timken Tapered Roller Bearings in highest grade units like the Lufkin.

Timkens excel in endurance because Timken load capacity is greater. The tapered construction, *POSITIVELY ALIGNED ROLLS*, and electric steel of Timken Bearings provide full protection against all load from all directions. Frictional wear is also eliminated, saving power, lubricant, and the cost of attention.

By increasing both ability and economy, Timkens are fast becoming the standard bearing in the best known oil field equipment.

THE TIMKEN ROLLER BEARING COMPANY, CANTON, OHIO

Technical information regarding bearing sizes and mountings is obtainable from the Timken Roller Bearing Service & Sales Company's Branches located in the following cities: Atlanta, Boston, Buffalo, Chicago, Cincinnati, Cleveland, Dallas, Denver, Detroit, Kansas City, Los Angeles, Memphis, Milwaukee, Minneapolis, Newark, New York, Omaha, Philadelphia, Pittsburgh, Richmond, St. Louis, San Francisco, Seattle, Toronto, Winnipeg

TIMKEN *Tapered Roller* **BEARINGS**

Say you saw it in The OIL WEEKLY

Butler **READY-MADE** steel buildings used as warehouses. Big structure is 24-ft.x70-ft.x 18-ft. Other is 24-ft.x30-ft.x 8-ft.

Producers and pipe line companies find these steel buildings O. K.

The warehouse is only one type of **ready-made** steel building that the Butler Manufacturing Company is making for oil companies.

Steel pump houses, steel power houses, steel gasoline plants and other necessary buildings for oil use are produced by Butler. All these types of **ready made** steel buildings are shown and illustrated in the Butler building catalog. Actual installations are shown.

These steel buildings are made of 24 gage galvanized steel with deeply drawn paneled corrugations. The sheets are standardized so that similar parts interchange.

Butler buildings come to you complete—ready to erect. Oil men are finding them convenient and economical.

Write us or our dealers for the complete building catalog. There is no doubt that you will find in it an actual installation or an idea that will save you some money.

Butler reliable dealers are:

M & V Tank Company, at Wichita Falls, Olney, Nocona, Cross Plains, Albany, Cisco, Isom, Pampa, Brownwood and Amarillo, Texas.

Drane-Humphrey Co., at San Angelo, Big Lake, and McCamey, Texas, and Carlsbad, New Mexico.

Drane Tank Company at Tulsa, Seminole, Hallet, Shawnee and Holdenville, Oklahoma, Eldorado and Madison, Kansas.

M. A. Trimmer at Blackwell, Oklahoma.

Southern Steel Company at San Antonio and Mirando City, Texas.

Butler & Gamble, at 300 Great Republic Life Bldg., Eighth and Springs Sts., Los Angeles, Calif.

Petroleum Specialties Co., at Casper, Wyoming.

Thomas Moran, at Oil City, Shreveport and Georgetown, Louisiana.

Continental Supply Co., at Kevin, Montana.

Butler Products include: **READY-MADE** Steel Buildings, Cans, Funnels, Buckets, Measuring Pumps, Truck Tanks, Underground Tanks, Storage Tanks, Bolted Tanks, Etc.

TRADE STEEL **BUTLER** PRODUCTS MARK

Butler Manufacturing Co.

Kansas City, Mo., Minneapolis, Minn.

Foreign Dept.: Kansas City, Missouri.

Say you saw it in The OIL WEEKLY

CASING

DURING 1926 THE OIL INDUSTRY PURCHASED 900,000 -GROSS TONS- OF CASING

Can You afford NOT to Protect this enormous investment?

During 1926 the Oil Industry used more casing than any other year in its history. Nine hundred thousand gross tons for drilling wells exclusively, were purchased. This does not include pipe lines and other uses.

According to Mr. B. E. V. Luty, writing in The Oil and Gas Journal of February 17th: "The amount of casing per well has been increasing in recent years, as the newer fields run the deeper and in the older fields there is deeper drilling than formerly. As to the amount of steel required per well drilled, there is no typical well. The average weight of casing per foot increases rapidly as the depth increases. Oklahoma and Texas wells may run 3000 or 4000 feet or more. Estimating the amount of steel used per well is further complicated by the fact that much steel is used that does not stay in the well, temporary casing being pulled as the driller proceeds, such casing being used over and over again, indefinitely. The majority of wells drilled in 1926 probably took in permanent equipment from 35 to 50 gross tons apiece in casing, tubing, etc."

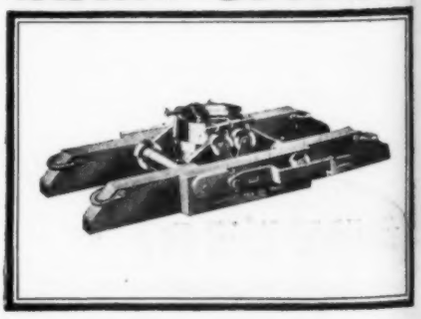
These facts point to two things, primarily, which are CHANGING DRILLING PRACTICE in the Oil Industry: 1. DEEPER WELLS and, 2. MORE CASING PER WELL DRILLED. In other words, deeper wells mean costlier wells.

It is a significant fact that the increased use of casing has developed an increased demand for BOVAIRD GRIP CASING SPIDERS. For casing is pulled and run oftener now than several years ago when shallow wells were the rule rather than the exception. And Bovaird Casing Spiders are being depended upon now, more than ever, to save time, money and labor, with absolute safety, in running and pulling casing. Bovaird Spiders save fully 25% of the time consumed on casing jobs with old style spiders, or rings and wedges.

In pulling casing the spider acts automatically, the casing moving freely at all times, in an upward direction, even in passing couplings. But the casing is INSTANTLY gripped when it starts downward.

In running casing the jaws are locked open in order to let the casing and couplings pass freely. When it is desired to hold the casing in the spider, the spring latch on the handle is released and the jaws and slips fall against the casing and hold it at the point desired.

BOVAIRD CASING SPIDER



Say you saw it in The OIL WEEKLY

D&B Announces!

The Heatreat Sucker Rod

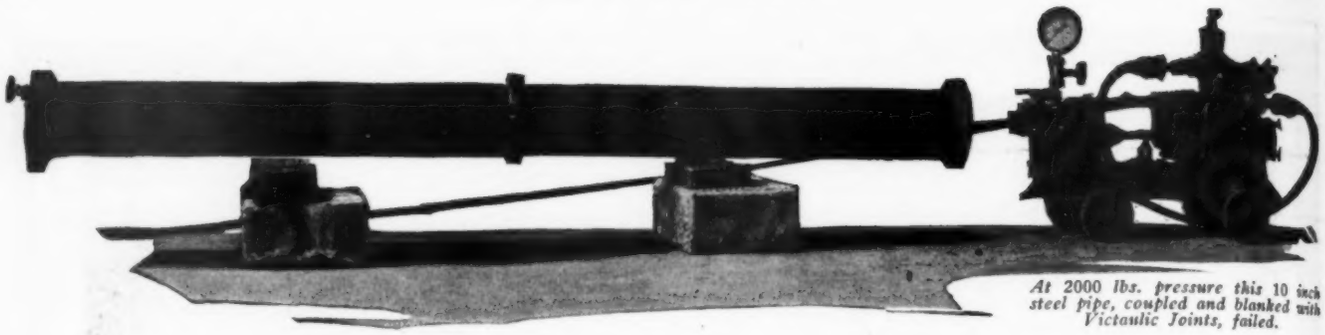
An entirely new rod—new in metallurgical and engineering theory—new in design—embracing new strength and durability, and practical from every standpoint of field service. Made from a new heat-treated steel, produced by D & B after many months of scientific study and experimenting, which embodies increased resistance to fatigue and greatly minimizes stretching and rod failures. For detailed information write for a copy of "Manufacturing Better Sucker Rods", the most comprehensive treatise on this subject ever produced.

D&B PUMP and SUPPLY Co.

LOS ANGELES, CALIF. DALLAS, TEXAS.

BRANCH STORES.

TORRANCE, TAFT, COALINGA, BAKERSFIELD, SIGNAL HILL, HUNTINGTON BEACH & SANTA FE SPRINGS, CALIFORNIA.



At 2000 lbs. pressure this 10 inch steel pipe, coupled and blanked with Victaulic Joints, failed.

VICTAULIC Joints held tight when the steel pipe ruptured

LAP welded steel pipe, five-sixteenths of an inch thick, with an inside diameter of ten inches, was used in this test. Victaulic Joints coupled the pipes together and Victaulic Joints on the grooved ends of the pipes closed the pipes with Victaulic Blank Ends.

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VICTAULIC JOINTS have greater strength than full-threaded screwed joints.

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VICTAULIC JOINTS keep repair costs low because any defective pipe length can be quickly removed and replaced without disturbing any other length.

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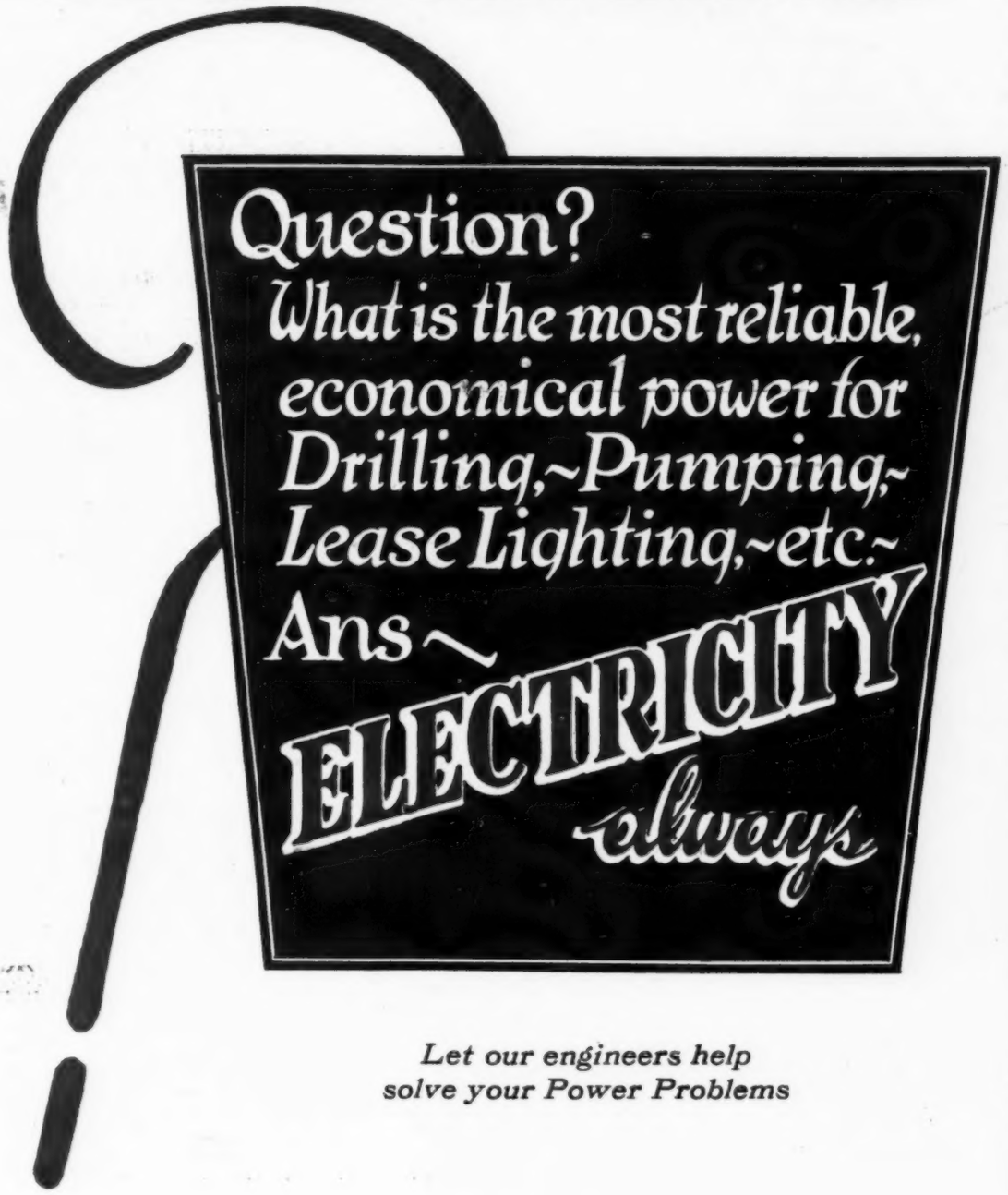

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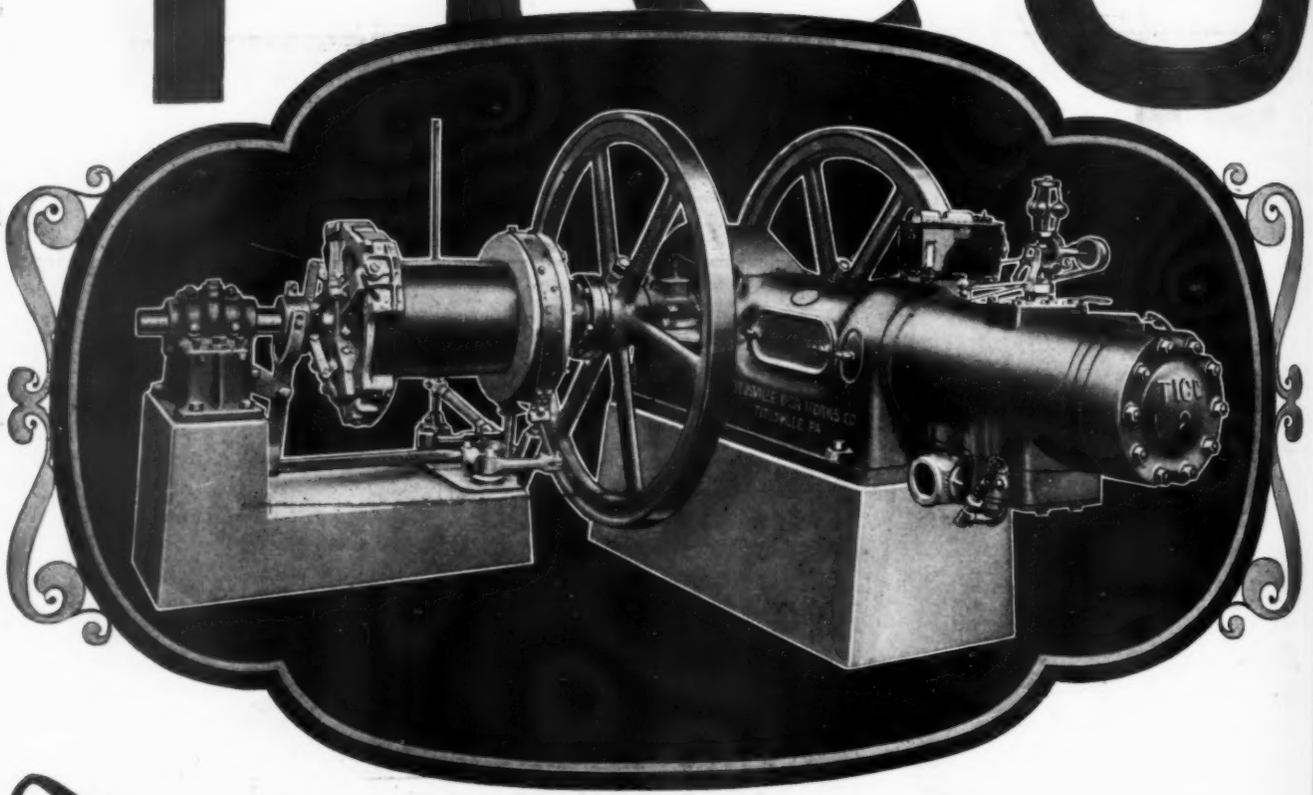

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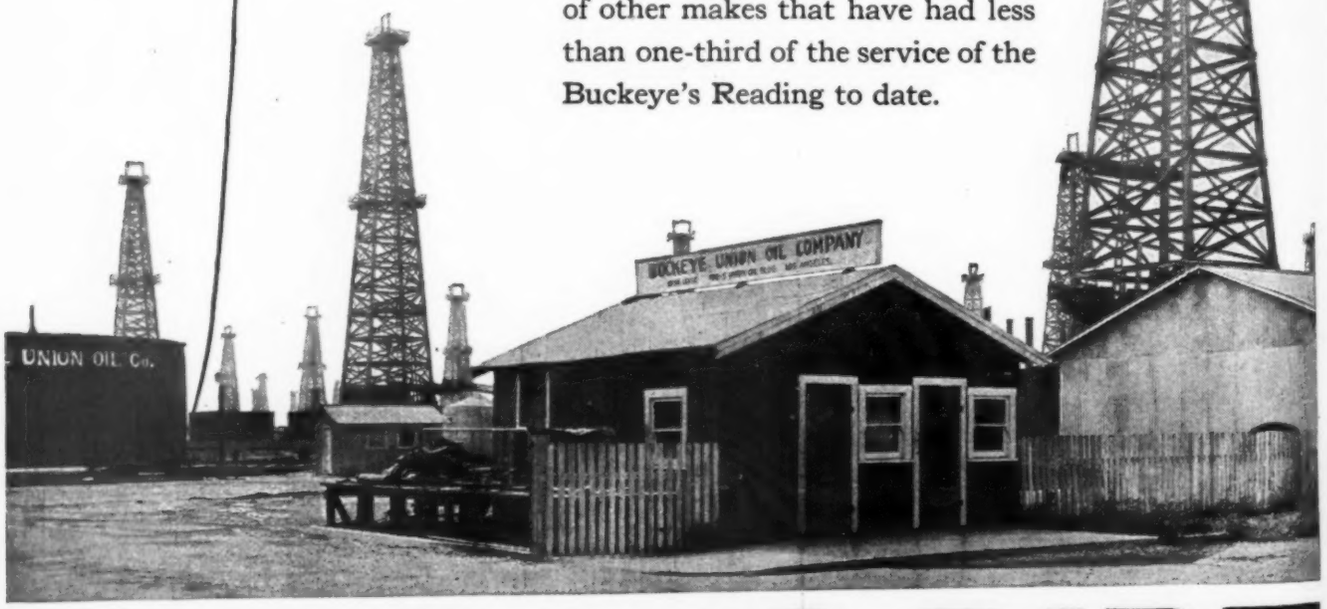

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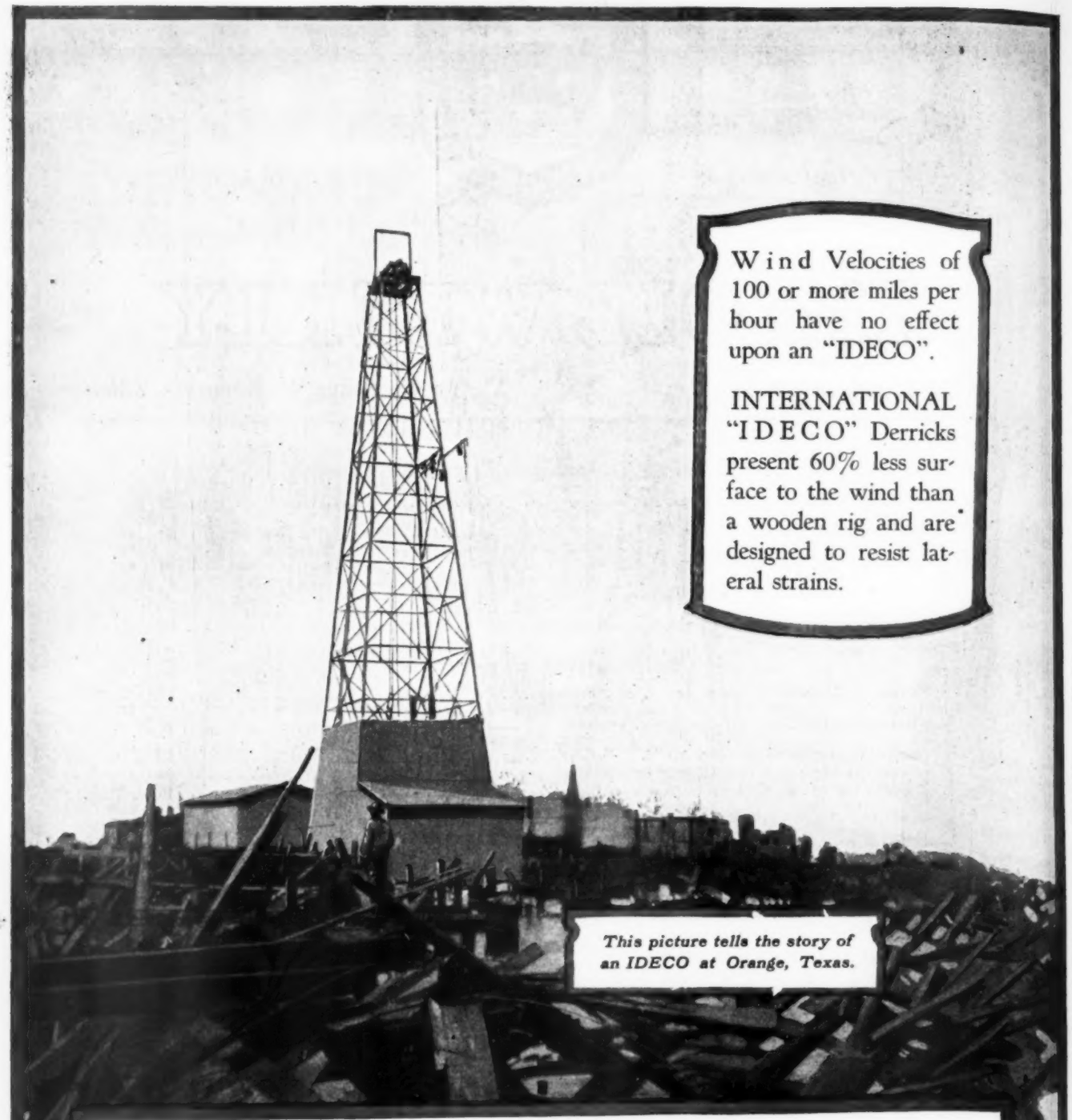

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Gasoline Movement Improved But Price Unchanged

Domestic and export orders relieve refiners' storage; withholding crude gives element of strength to market

By KENT RIDLEY

ON "confidential" advice from association headquarters at Chicago, domestic jobbers entered the market last week to cover their requirements for gasoilne for the next month, with the result that storage of that commodity was appreciably relieved, but the volume was not sufficient to hike the price of Navy gasoline at the refinery. An exporter also entered the market for 64-66 gasoline and placed orders for three million gallons, most of it with North Texas plants. This order, which was placed at the bottom price, also failed to have an effect upon the market.

North Texas crude is beginning to tighten up some with producers laying aside a portion of their production against better prices, and skimming plants are making the most of their opportunity with low-priced oil, which is increasing their takings of spot oil. Some premiums are reported being offered for desirable connections.

North Texas refiners, however, are considering purchase of Seminole crude at the posted price for tank car shipment when rail conditions will permit. The reason for this move is that the "sweet" oil available in Oklahoma is more desirable for refining than the native crude.

Production Is Off.

In spite of a 4700 barrel gain in Oklahoma, a 5150 barrel gain in West-Central Texas and minor gains in Kansas and North Louisiana, the total daily average yield of U. S. fields for the week ending March 26, took a 1500 barrel drop following significant slumps in California and the Rocky Mountain States, according to American Petroleum Institute estimates. Aside from important losses in the West, a 950 barrel decrease in Arkansas and a 1000 barrel decrease in the Eastern States aided materially in offsetting the gains of the Mid-Continent.

Seminole continued its over-production threat during the week with a daily recovery of 281,750 barrels, a gain of 4900 hundred barrels over the previous week. Earlsboro pool increased 3700 barrels over the previous week with an average of 36,300 barrels. Slight losses in other Oklahoma fields generally kept the gain from being larger in the state's total.

An increase of 3500 barrels in the Crane-Upton County pools was the chief production feature of West Texas for the week, this area reaching 48,500 barrels. Brown County added to the rise with 1100 barrels increase and Pecos County with 800 barrels.

Spindle Top was the chief source of a loss in the Gulf Coast, falling to 58,750 barrels, a drop of 1750 barrels.

California's drop of from 644,600 to 638,700 barrels was somewhat general, including losses of 3200 barrels at Seal Beach, 2000 barrels at Huntington Beach, 1000 barrels at Inglewood, 500 barrels each from Long Beach and Rosecrans, and 800 barrels in other fields. Ventura Avenue registered the only gain in California, rising from 48,900 to 51,000 barrels. The Rocky Mountain States drop came chiefly from a 3500 barrel loss at Salt Creek.

North Texas Bonuses

The crude market in the North Texas district centering around the Wichita Falls refining area has developed a firm position since the reduction of prices on this crude to $1.30 to $1.36, and premium payments have become general on spot oil purchases. Local conditions are responsible for the reappearance of bonuses for crude, and independent buyers are paying from 10 to 25 cents per barrel above the posted price for spot oil, while a few refiners are taking on new connections at a dime premium on contract.

Producers in the North Texas district are paving the way for the premium payments by holding back field developments, and filling empty tankage with a portion of their daily crude runs for storage against better prices. About 5,000,000 barrels of empty tankage is available in the North Texas district, and while the bulk of this is in the hands of the major pipe line companies, here is enough controlled by independent operators to become a factor in the local supply of spot oil. The arrival of cheap crude has been accompanied by increased operations of skimming plants, and until the past week refiners have been marketing their fuel oil at price equal to that paid for crude. Increased production of fuel, however, has lowered the price to about $1.30 per barrel, while buyers of this commodity are restricting purchases in anticipation of cheaper prices.

Spot sales of Texas Panhandle crude have been greatly reduced in volume since the two price cuts placed in March on the Carson-Hutchinson oil, and premiums, which amounted to as high as 30 cents per barrel in January and early February have practically disappeared. A number of the principal buyers of Carson-Hutchinson spot crude made contracts with producers for deliveries over the first half of 1927 at a flat price, and the break in the market has dealt a big financial loss to the buyers. More than 1,000,000 barrels of Panhandle crude has been contracted ahead of the price drop by brokers and refiners at $1.25 and above per barrel, while the price now is 95 cents. More crude is being sent to storage in the Panhandle than during the month previous, although major pipe line companies in the district still welcome new connections. Phillips Petroleum Company is reported to have negotiated for additional storage in the Panhandle, with plans to put about two million barrels of additional oil in storage until better prices are available.

Flush production broke out in an entirely new section of the West Texas district during the past week, while the Church and Fields area, Crane County, added to its over-production troubles by the completion of two wells gaug-

DETAILS ON CRITICAL FIELDS

Pool—	Oil Wells Completed	Total Initial Production	Initial Per Well	No. Producing Wells	Daily Production Barrels	Daily Production Per Well	Rigs Up	Wells Drilling
PANHANDLE—								
Hutchinson County	856	463,260	541	816	103,860	127	44	187
Gray County	110	30,555	278	108	7,925	73	7	51
Carson County	97	29,650	306	89	7,105	80	5	72
Wheeler County	22	8,320	378	18	1,865	104	5	28
Totals	1,085	531,785	490	1,031	120,755	117	61	338
WEST TEXAS—								
Church & Fields	31	35,815	1,155	30	14,210	(*474	18	36
Gulf-McElroy	15	17,605	1,174	15	10,980	732	2	3
Totals	46	53,420	1,161	45	25,190	(*560	20	39
(*) Production pinched								
OKLAHOMA—								
Seminole Area	360	371,016	1,030	294	333,271	1,133	69	434

ing 300 barrels of 33 gravity oil per hour. Humble scored one of these big producers Monday, while the other was made on the Simms Oil Company and Atlantic Oil Producing Company's joint property. Gulf Production Company opened the new flush area for West Texas with a 180-barrel per hour well, offsetting the discovery well of the Winkler County field. Gulf's well is making about 30 degree gravity oil, and the usual sulphur contents is not so pronounced in this producer. Production had to be pinched to 1000 barrels daily on Monday of this week, pending the completion of a line to the railroad by the Southern Pipe Line Company, subsidiary of Standard of Indiana. Southern bought the discovery well, and is preparing to handle the output of the field, making tank car shipments to the Pan-American plant at Destrehan, La.

California Holding

While it was expected that a certain amount of time would elapse before Mid-Continent crude cuts would be reflected in the status of California's market, the present stability of the local price structure presents a condition with few parallels on the West Coast.

With reference to the impending cut, the California oil fraternity is singing, "It Won't Be Long Now!" Which is exactly the same tune many of them were humming ten days ago. According to the relation of storage and stocks to contemplated flush and the accompanying upward trend of the daily production curve, the expectation is justified. Not only is it justified from the angle of a probability of too much crude within the next quarter, but its likeliness is increased in view of the bitter war being waged among major retailers of gasoline on the Pacific Coast. Competition is ultra-keen, and the substantial independents are displaying a desire to take the initiative in the matter of price regulation, rather than leave this prerogative in the hands of the Standard of California, whose price policy is the criterion generally followed.

Storage is going to have to be built in California in no small quantities during 1927. If history repeats itself, the little fellows, who have been unable to establish connections for disposal of their production at profitable rates, are going to pay for the storage facilities that will be built by the majors. Major purchasers will not build this storage until oil for it can be purchased at prices they consider "right." The majors' conception of the "right" price will be considerably lower than the existing posting. As the principal menace to proper relation between production and consumption is the apparently uncontrollable townlot area of Seal Beach, whose predicted peak is not remote, the downward revision in prices must necessarily come quick, if precedent is followed.

No Connections Established

Those participating in the boom at Seal Beach are experiencing difficulty in making arrangements to dispose of the production they hope to obtain. The majors are not endeavoring to make any connections. Typical of their attitude is that of the Standard Oil Company of California:

"The Standard Oil Company of California is unwilling at this time to obligate itself to purchase crude oil in this (Seal Beach) townlot area, but if the present attitude of the company should be modified it would only be on the basis of purchase with limitations. It is impossible to anticipate at the moment what these limitations may be. Aside from a price discount restricted to that area, they may include cash payment for only a part of the oil and a chance for cost of storage on the balance, with final payment to be made at some time in the future. The limitations may involve restrictions as to the maximum amount of oil to be taken from any one property, and such further limitations as may be deemed desirable."

The above attitude of the purchasers is natural and indicative of the local over-supply of crude. It has led to a concerted move on the part of certain operators to curtail drilling at Seal Beach. This effort might bear fruit were it not for the fact that a majority of the acreage being drilled is held in town lots. Mutual agreements of operators are of no avail in attempting curtailment where property owners are not likely to be homogeneous in desire.

George R. Stevens, manager of the land and geological department of the Simms Oil Company in the Shreveport district, visited the home offices of the company in Dallas late last week.

Little Competition For Osage Leases

Pawhuska.—A total of $2,430,700 was poured into the coffers of the Osages here today when 129 tracts were disposed of at the twenty eighth public sale of oil and gas leases in the Osage Nation.

While prices, totals and attendance exceeded expectations because of the present unfavorable condition of the crude market, competition such as usually characterizes such sales was lacking and 344 tracts were passed without a bid.

The Kewanee Oil and Gas Company was the highest bidder at the sale when it paid $645,000.00 for the quarter section located in the northeast of 3-26-6 in the Burbank district. Bidding on this tract was started at $250,000 and was quite spirited until the half million mark was reached.

The tract is bounded on three sides by production and is without question the most desirable offered at the sale.

The next highest price was paid for the quarter section in the southwest of 27-27-6 which went to the Skelly Oil Company for $555,000.00. Competition for this tract was a three cornered proposition with Skelly, Phillips and Kewanee.

The Lewis Oil Company bought the quarter section in the southwest of 28-26-6 for $250,000.00. The Texas Company bid in the quarter section in the southeast of 30-25-8 for $305,000.00.

The Phillips Petroleum Company bid on several tracts but only bought three for a total of $75,200.00. At previous sales the Phillips Company has been a consistent buyer spending a total of more than $2,000,000 at a sale last year.

Tracts offered that were located in wildcat or semi-proven districts were either passed quickly or disposed of at small prices. A list of the more important sales made other than those mentioned above are given in the accompanying table.

Some of the Outstanding Tracts Sold at Osage Sale March 28, 1927

Tract No.	Description	Acreage	Price	Buyer
104	sw 3-24-9	160	$ 2,600	Ray Oil Co.
105	sw 5-24-9	160	3,200	A. G. Oliphant
154	se 5-24-8	160	9,100	The Texas Co.
157	sw 19-24-8	160	2,100	Indian Territory
159	se 34-24-8	160	4,600	Ray Oil Co.
165	sw 20-25-8	160	20,500	The Texas Co.
167	nw 30-25-8	160	160,500	The Texas Co.
168	se 30-25-8	160	30,500	The Texas Co.
169	sw 30-25-8	160	180,100	Prairie Oil & Gas
232	ne 24-25-7	160	13,500	Prairie Oil & Gas
232	nw 24-25-7	160	4,000	Tidal Oil Co.
234	se 24-25-7	160	4,000	Mid-Continent Pet.
314	ne 14-25-6	160	4,000	Mid-Continent Pet.
315	nw 14-25-6	160	4,000	Laurel Oil Gas
316	nw 14-25-6	160	5,400	Tidal Oil Co.
324	ne 11-26-6	160	75,000	George Parker
325	ne 15-26-6	160	4,100	Empire Gas & Fuel
327	sw 28-26-6	160	251,000	George Parker
328	se 29-26-6	160	6,200	Phillips Pet.
333	sw 6-27-6	160	3,100	Texas Co.
334	nw 14-27-6	160	2,000	Ind. Ter. & Foster
335	ne 15-27-6	160	2,100	Ind. Ter. & Foster
336	se 17-27-6	160	6,100	Phillips Pet.
338	sw 27-27-6	160	505,000	Skelly Oil Co.
398	se 36-26-5	160	1,600	Earnest Maccarty

Magnolia Uses Centrifugal Pumps In New Stations

Two South Texas main line installations are motor driven; Third station being built in the Panhandle

By A. R. McTEE
Staff Representative

WIDESPREAD interest is being manifested in the use of motor driven centrifugal pumps by the Magnolia Pipe Line Company for pipe line service in South Texas. Two stations equipped with this type of power have recently been built and put into operation and a third is now under construction.

The use of electrical driven centrifugal pumps for pipe line work is not new but the Magnolia's installations are the first so far as is known east of California. Results from the two stations already in operation in South Texas, one at Hull and one at Westbury, a short distance from Hull, have been favorable enough to influence the company to make a similar installation at Kings Mill on its main trunk line from the Texas Panhandle. The success of the Magnolia's experiment will no doubt result in similar installations by both the Magnolia and other companies.

At its Hull station, which can handle approximately 100,000 barrels of oil daily, Magnolia was confronted late last year with the problem of increasing the throughput of its 8-inch line to Beaumont. This meant either the installation of additional units to the giant pumping plant already there, looping the line, or trying out motor driven centrifugals. Looping the line would have still left the problem of pumping through a "bottle-neck," and increasing equipment in the old station would have meant the expenditure of at least $60,000 for one additional engine and pump. The experiment with centrifugals was left and after figuring on all three propositions, it was decided to give the new installations a try-out.

Two Types Installed

Accordingly, two stations were built, each equipped with different pumps and motors, and each a different type station to operate under an entirely different set of conditions.

At Hull, the centrifugal auxiliary functions as a main line station, as all the oil handled is taken from storage. The station is housed in a corrugated iron building, 18 by 25 feet. Equipment consists of three Allis-Chalmers, four-stage pumps, double section runner type, mounted on Timken bearings, grease packed. These pumps are driven by 250-horsepower Allis-Chalmers motors, 3500 r.p.m., squirrel cage, 2300-volt, induction type. Control is manual and motors are started through auto-transformers.

The pumps were installed to operate in series, with an extra in case of emergency. Intake and discharge lines are controlled by gate valves as in the ordinary type station.

Lubrication of the pumps is automatic.

Electric current supplied by the Western Public Service Company is delivered to the station at 66,000 volts, but is stepped down to 2300 through a transformer near the station.

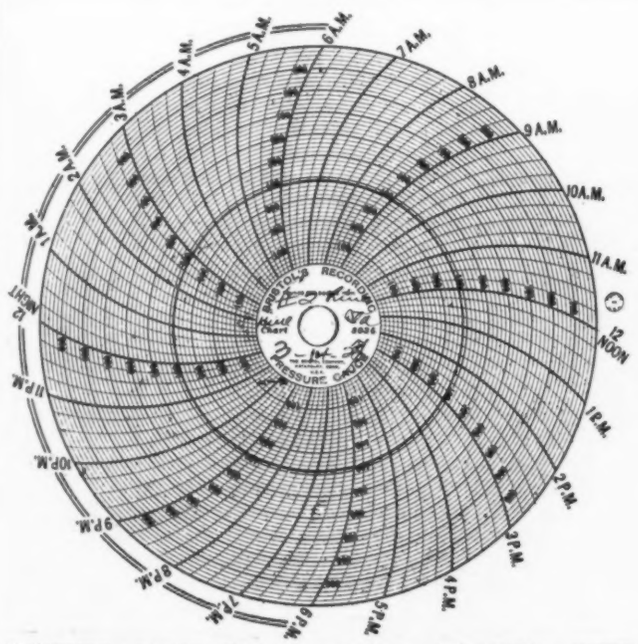
Handling Capacities

Working in conjunction with the Westbury station, the Hull installation affords the four following alternatives for putting oil through the line to Beaumont:

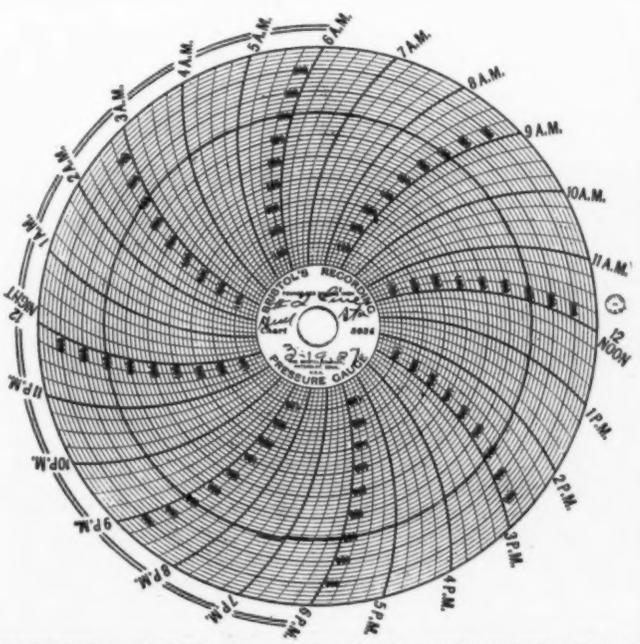
a One pump at Hull operating at 400 pounds pressure will put through 11,600 barrels to Beaumont.

b Two pumps at Hull operating at 350 pounds pressure each will put through 16,000 barrels to Beaumont.

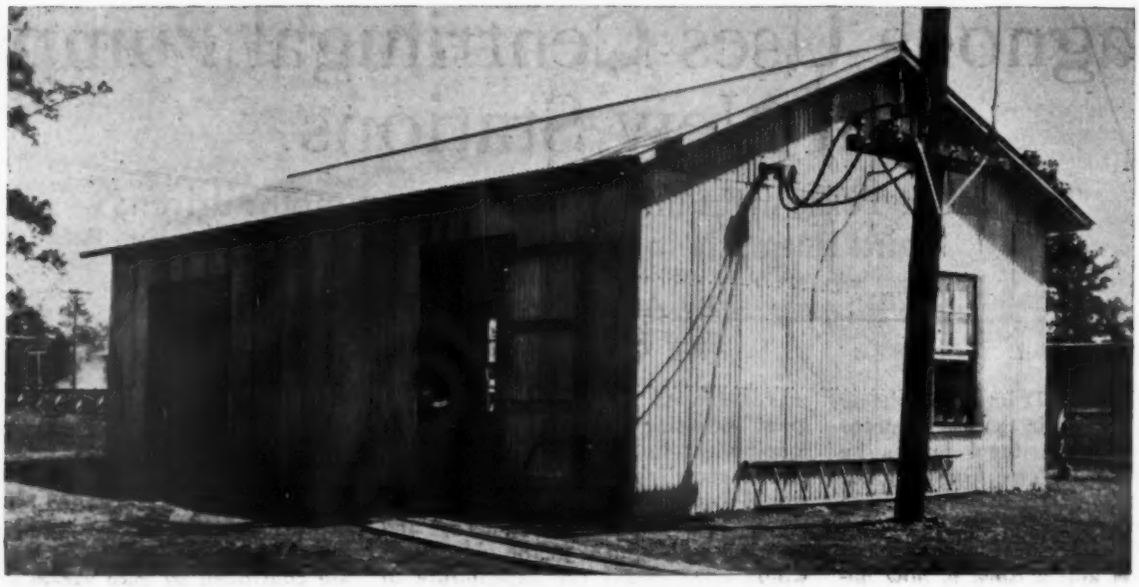
c Two pumps at Hull operating at 700 pounds pressure with one pump at



PRESSURE GAUGE FOR ONE DAY'S OPERATION WITH ONE CENTRIFUGAL PUMP, HULL STATION



PRESSURE GAUGE FOR ONE DAY'S OPERATION WITH TWO CENTRIFUGAL PUMPS, HULL STATION



HULL PUMP STATION OF THE MAGNOLIA PETROLEUM COMPANY

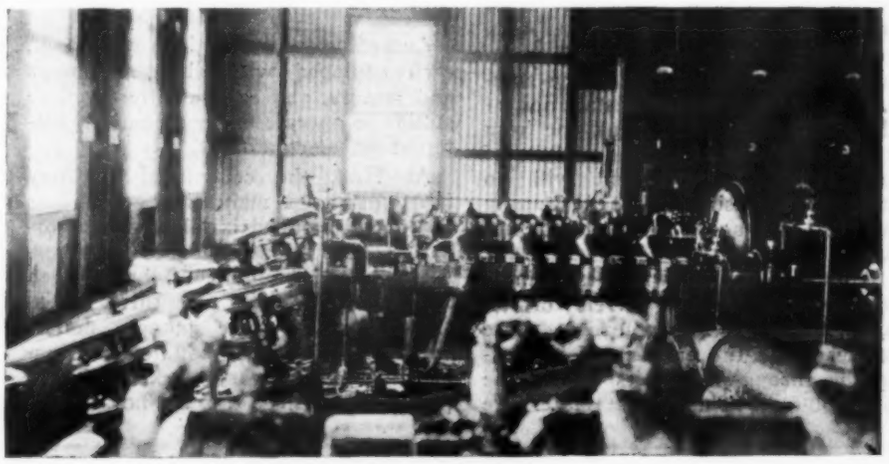
Westbury cutting in at 350 pounds, will put through 20,000 barrels to Beaumont.

d Maximum capacity of 23,600 barrels is put through with two pumps at Hull working at 700 pounds pressure, and two at Westbury, working at 675 pounds.

These capacities are based on Luling crude, gravity approximately 28, at winter temperature. With lighter oil and warmer weather, the throughput would be considerably increased, probably to 25,000 barrels. Relatively heavy oil was chosen purposely to see what could be done with it.

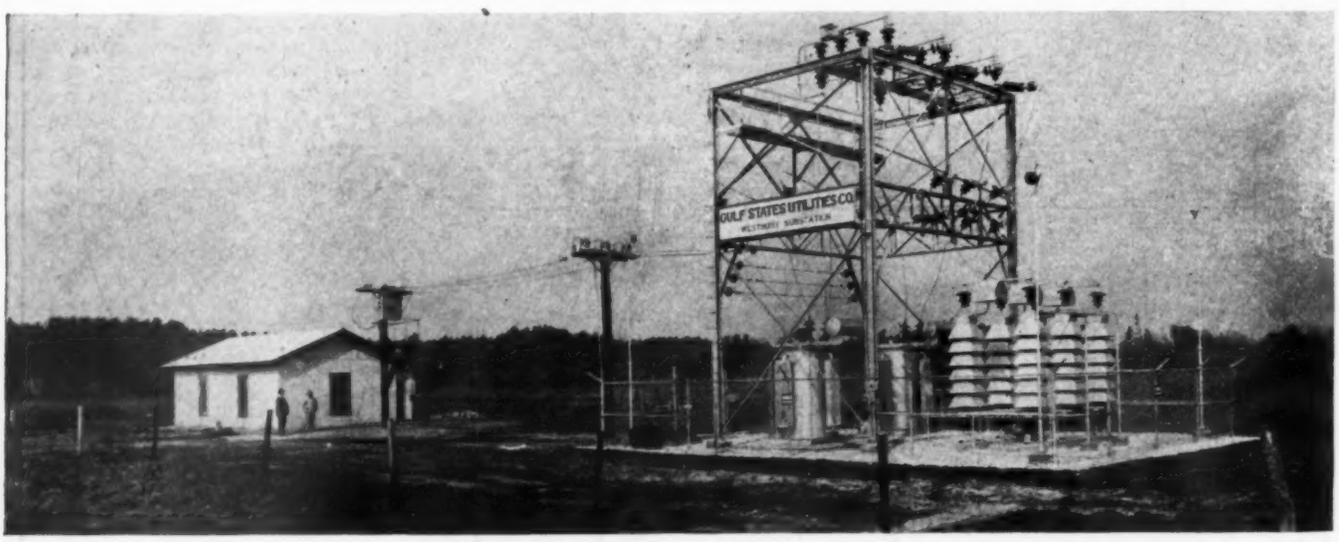
Since the distance from Hull to Beaumont is 40 miles, a booster station was necessary and it was decided to make the Westbury station a booster. The station is housed in the same type of building as the one at Hull, and of the same size.

Equipment at Westbury consists of three Worthington centrifugal pumps, each designed for a capacity of 25,000 barrels against a pressure of 350 pounds, each connected to a General Electric motor, 2300-volt induction type. The pumps are arranged so that any two can be operated in series, resulting in a line pressure of 700 pounds, the same as at Hull, with the third unit as a stand-by.

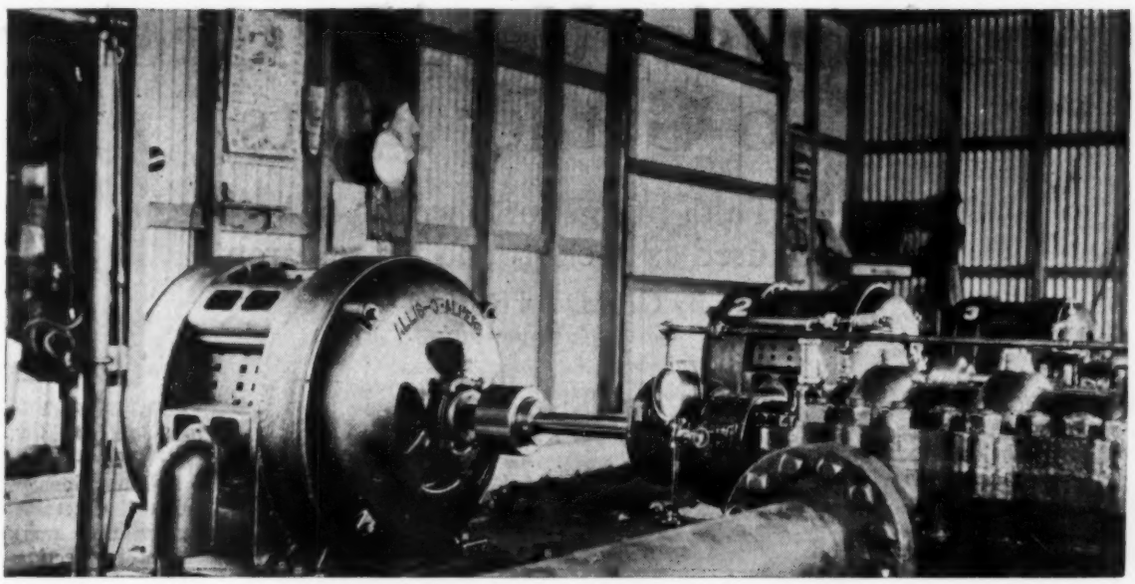


HULL STATION, SHOWING PUMPS AND CONTROL PANELS

The Westbury station was designed for automatic operation, but as a matter of fact it has been controlled man-

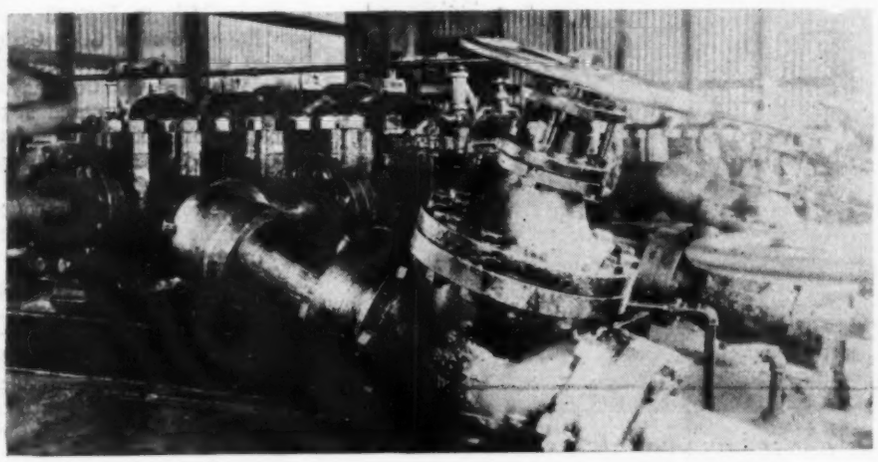


WESTBURY PUMP STATION OF THE MAGNOLIA PETROLEUM COMPANY



INTERIOR OF HULL STATION SHOWING MOTOR HOOK-UP.

ually because of irregular operating conditions. The automatic feature causes the pumps to cut in on the line when pressure of the incoming oil reaches a certain low point, and boost the pressure to 350 pounds or 700 pounds, according to whether one or two pumps are running. Irregular demands on the line from Hull to Beaumont, however, have made it necessary to keep attendants at the station.



HULL STATION SHOWING CLOSE-UP OF ONE OF THE PUMPS

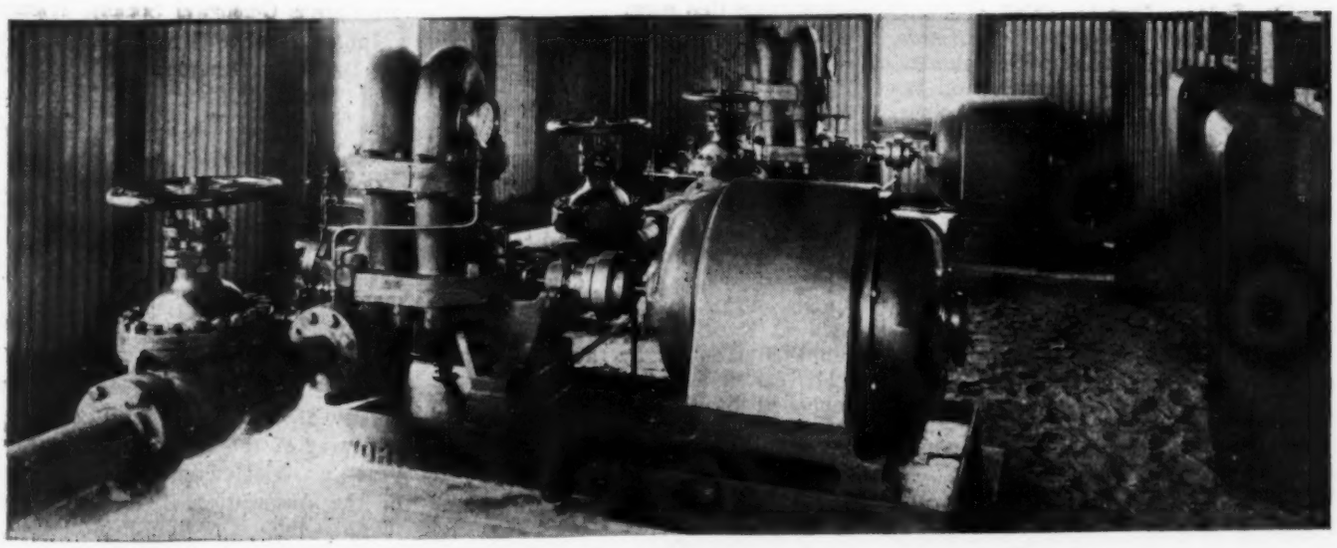
Both the Allis-Chalmers and Worthington companies have kept service men at the stations since installation, to take care of any mechanical troubles that might develop.

At Kings Mill, in the Panhandle, a duplicate of the Westbury station is now being built, as the initial station on the Panhandle line nearing completion.

Due to the varying conditions under which both stations have been running, and also to the length of time that they have been operating, it has been impossible to get accurate information on costs. It can be said, however, that the cost per barrel of oil put through the line with these stations has been much lower than was anticipated, and that both stations are highly successful.

Without discrediting the usual type of pipe line stations or the equipment used in them, it is interesting to notice the advantages offered by centrifugal installations.

(Continued on page 40)



WESTBURY STATION, SHOWING MOTOR HOOK-UP AND AUTOMATIC CONTROLLERS.

Symposium Idea Used By Geologists To Gather Facts

Meeting At Tulsa brings forth wealth of knowledge to be used as background for research

By GRADY TRIPLETT
Staff Representative

TULSA.—Affairs of the organization took up the morning of the first day of the meeting of the American Petroleum Geologists, Thursday, March 24. After the preliminaries of welcome were out of the way, Alex W. McCoy, president, delivered his annual address, which reviewed the work of the past year and set out some of the activities for the coming year.

The object behind the type of programs being carried out was made clear by President McCoy. The Tulsa meeting, for instance, was a symposium on the general subject—The Relation of Structure to the Accumulation of Oil.

"These symposiums," he said, "are for the purpose of gathering more facts about petroleum. When sufficient facts have been obtained, it will be possible to make a comprehensive summary, from which research may be developed.

President McCoy pointed out that the past year had seen the permanent headquarters of the Association established without a deficit in funds, and this without the organization availing itself of the promise of the Tulsa interests to take care of any deficit.

Dr. Sidney Powers, chief geologist of the Amerada Petroleum Corporation, Tulsa, was named to represent the Association as its representative on the National Research Council. He succeeds W. E. Wrather of Dallas, whose term expires in June of this year.

Finances Good

The financial condition of the Association was given in the report of F. L. Aurin, secretary-treasurer. The books were audited March 10 and showed a cash balance of $12,080.12 for the organization, which has securities to bring its total assets to $29,854.

The Association was shown to be in good financial condition, with prospects for a prosperous year.

The past year showed a membership growth of 166, with 181 applications now on file and awaiting the proper routine to determine their disposition.

NEW EXECUTIVE COMMITTEE A. A. P. G.

SITTING—G. C. GESTER, PRESIDENT; A. W. MCCOY, RETIRING PRESIDENT. STANDING—DAVE DONOGHUE, SECRETARY; JOHN L. RICH, EDITOR, AND LUTHER H. WHITE, VICE-PRESIDENT

Mr. Aurin summed up his remarks on the change in the management of the Association this way:

"The condition of the organization since the establishment of permanent headquarters with a business manager in charge shows this to have been both feasible and practical."

The permanent headquarters office was established last July in Tulsa, with J. P. D. Hull as business manager.

While no radical changes were made in editing the bulletin the past year, some expansions were developed, as shown in the report of J. L. Rich of Ottawa, Kan., editor of the Bulletin, published monthly by the Association.

He called attention to the volume published by the Association on the Salt Dome symposium. Another is now being published on the general subject of Continental Drift, which was the symposium subject of the mid-year meeting in New York. The editor said a volume would be made of the papers presented at the Tulsa annual meeting on the Relation of Structure to Oil Accumulation.

Nominations wound up the first business session. This convention marked a departure in election of officials. Only nominations were completed at the first business session. Voting was done at a booth prepared for the purpose, and results announced at the closed business session Friday afternoon.

Officers Named

The election of G. C. Gester, chief geologist and director of the Standard Oil Company of California, was assured at the nomination, however, when the introduction of his name resulted in the adoption of a motion to close nominations and name the California man by acclamation.

Results of the balloting, announced Friday afternoon, showed that Luther White of the J. A. Hull Company, Tulsa, had been elected vice-president. He was opposed by Max Bauer of the Midwest Refining Company, Amarillo.

Dave Donoghue of the Texas and Pacific Coal and Oil Company, Ft. Worth, was elected secretary-treasurer. The other candidate was Marvin Lee, president of the Kansas Geological Society, Wichita.

John L. Rich was re-elected editor of the Bulletin. Other candidates for this post were Wilbur A. Nelson of Charleston, W. Va., and L. C. Snider, New York.

Other changes proposed would alter the method of electing officials, raise the annual dues from $8 to $10 a year and allow students to enroll as student members and receive the Bulletin at $8 a year. These proposals have not been adopted.

Dr. Charles E. Decker of the University of Oklahoma and secretary-treasurer of the Association for many years, was elected an honorary member of the Association. This action was taken at the suggestion of G. C. Gester, the newly elected president.

Relation of Structure to Oil Accumulation

Digest of discussions presented at technical sessions of the American Association of Petroleum Geologists

By ROYE MUNSELL
Staff Representative

TULSA,—Technical sessions of the Tulsa meeting of the American Association of Petroleum Geologists were largely given over to studies of the relation of structure to petroleum accumulation. Fifty papers composing a symposium on the topic were presented at the several sessions beginning Thursday afternoon.

As a prelude to the symposium, two of the first sessions were devoted to a survey of the new developments in important areas in the Mid-Continent, Gulf Coast, West Texas and California. R. D. Reed presented a paper prepared by C. H. Beal and A. H. Heller, on recent developments in California. West Texas was covered by a similar paper by Robert Burns Campbell. A paper by Alexander Duessen on new developments on the Gulf Coast was read by Wallace Pratt. Alex Duessen was ill at his home in Houston and could not attend the meeting.

Recent developments in the Texas Panhandle were covered by Max Bauer. He said that recent developments in the Panhandle of Texas show the presence of a very large area of possible production. While the present proven area now comprises 100,000 acres the possible ultimate area of production is as large as 180,000 or 190,000 acres. According to Bauer the field will probably be found to extend continuously through Moore, Carson and Hutchinson Counties into Wheeler by future developments.

Seminole

New developments in the Seminole field of Oklahoma was the subject of T. E. Weirich, of the Tidal Oil Company. According to Weirich, the principal pay is not the Wilcox sand in the strict sense of the word, as it is commonly supposed, but rather the post-Wilcox Simpson. The post-Wilcox Simpson is dolomitic in character and lies just above the Wilcox sand in the Seminole district. The Wilcox sand has been found dry in that area. That it will not produce can probably be assumed from the fact that it has not yet been found productive at even its high points.

Weirich said that the Seminole City field proper has already reached its peak. He referred to the 265,000 barrels of production which it made on February 21. As for 8-6 and Earlsboro, he expressed the opinion that they are still in the initial stages of their development. It was his belief that to the west may be developed an area as big, if not bigger than the present area. The dry hole west of Earlsboro is admittedly low, he said, but not low enough to be taken as the limit of additional production in that direction.

In speaking of the status of searight, Weirich said that apparently that area is on the "ragged edge" of the structure.

Following these papers, the sessions were largely devoted to the symposium on the relation of structure to the petroleum accumulation in developed fields until the last day of the meeting when several papers on general topics were presentted.

Developed Fields

The structural features of California fields were described by G. C. Gester and E. C. Gaylord in a paper delivered by Gester. The Elk Hills of California were treated more specifically by P. V. Roundy.

The Mervine, South Ponca, Blackwell and South Blackwell fields of northern Oklahoma were the subjects of a paper prepared by S. K. Clark and J. I. Daniels, and read by Clark. The structure in the four fields was described as being very similar and production, it was pointed out is associated with anticlinal structure.

J. S. Irwin, in treating with the Lost Soldier District of Wyoming in a paper, said that the commercial oil and gas pools of that district are found on the crests of anticlines and domes except in the G. P. field. In the G. P. field it was pointed out, the oil occurs on the axis of steeply pitching anticlines without structural closures.

Dr. I. C. White, the venerable geologist, read a paper by David B. Reger on the Copley pool of West Virginia. Dr. White said that the Copley pool of Lewis and Gilmer counties, West Virginia, is an illustration of the synclinal accumulation of oil in sand which carry no water. Oil occurs in the deepest part of the basin, at the foot of a descending axis, being almost surrounded by gas in the anticlines on either side and along the higher synclinal axis northeastward. Southwestward the pool terminated by poor rather than by changed structural conditions.

Production in the Copley pool are mainly from the Gordon Stray, Gordon and Fifth sands of the Catskill series of the upper Devonian. There is apparently little prospect of lateral extension of the pool but there is possibilities of new gas production in deeper sands. Oil production is not probable in deeper sands unless it may be found in the Lower Devonian and Silurial bends, which would be from 7,000 to 10,000 feet deep in that area.

The symposium was continued with a discussion of the Pine Island and Caddo fields by A. F. Crider. Those areas it was pointed out have received their characteristics from a shifting of the axis of the structures.

Cabin Creek

The outstanding paper of the session Friday morning was that by Theron Wasson, chief geologist of the Pure Oil Company, on Cabin Creek, West Virginia. Aside from the geology of the pool, the paper brought out the fact that Cabin Creek is an instance of unit development, since the whole field is controlled by the Pure Oil Company.

The field has daily production of around 2,600 barrels, being kept at a figure equal to the requirements of the refinery nearby. It is necessary to

"Rock Hound Review"

The fun side of the convention of the American Association of Petroleum Geologists reached its climax Friday night. The evening began with three banquets, then turned to the "Rock Hound Review," after which the annual ball was held.

Three banquets were necessary, due to lack of a room of sufficient size to accommodate the membership and ladies. The Mayo Hotel, the Tulsa Hotel and the Masonic Temple were scenes of the banquets.

Harry Nowlan and Arthur Truex were headliners for the "Rock Hound Review." This ran the gamut from high class musical numbers to clever "take off" on the hobbies and activities of some of the well known geologists of the association.

Women visitors at the convention were entertained with several social functions. One of these was a tea at the Oakhurst Country Club.

drill eight or ten wells each year to keep this supply of crude oil at the desired total.

Cabin Creek is now about one half developed. It was discovered in 1914 and has had a gradual development.

Geologically Cabin Creek is a monoclinal slope, near the bottom of the major syncline.

Bradford

A paper on the Bradford pool was presented by J. R. Newby, other authors being P. D. Torrey, C. R. Fettke and L. S. Panyity. Bradford now has 25,000 producing wells. It has produced 257,000,000 barrels of high grade crude. Its high mark was 100,000 barrels. In 1907 it went down to 4000 barrels daily and is now producing 11,000 barrels daily. This increase has been brought about by flooding. It has a life of 30 more years in the opinion of the authors.

Griffithsville and Tanner Creek, West Virginia were included in a paper prepared by E. A. Stephenson and R. E. Davis, who presented the subject matter.

Garber

The history of the Garber pool was given by R. M. Carr, co-author with W. G. Gish on this Oklahoma pool. Garber came into production in 1916 and oil was found in several sands up to 1925, its production in that period being 16,000,000 barrels.

The deep sand discovery was made in April, 1916. The Wilcox sand is credited with the deep sand oil but the authors characterized this deeper production as coming from the Ordovician Limestone. Garber production is now around 36,000,000 total.

Bellevue, Louisiana, was designated a pool of exceptional interest due to the big output of shallow wells, by I. P. Teas, author of a paper on this pool. Bellevue is an isolated dome, north of Shreveport. Its production has come from 280 to 400 feet.

Deep drilling now under way promises to give geologists further information on the deeper strata of Louisiana.

Some pools of Illinois were outlined in a paper by G. F. Mounton and A. H. Bell, who presented the subject matter.

Mexia Fault

In a paper by F. H. Lahee on the producing fields of the Mexia fault zone the similarities and dissimilarities of the South Groesbeck, North Groesbeck, Mexia, Wortham, Currie, North Currie, Richland Powell, and Nigger Creek fields, all producing oil or gas in the Mexia fault zone, were pointed out and discussed.

In every case, it was stated, the accumulation of petroleum is related to a fault having a displacement of several hundred feet, with the downthrow to the west, on the side up the dip from the strata. In every case, also, the principal production is coming from sands in the upper part of the Woodbine formation of basal upper Cretaceous age. There are marked differences, however, in the character of the oil produced by the several fields. The difference in other respects is the subsea depth of the original water contact, structural relief of the producing part of the structure, and the nature of the associated water.

The symposium was continued with a discussion of the Homer, Louisiana, area by W. C. Spooner. Fanny C. Edson read a paper on ordivician correlations in Oklahoma.

Russell County, Kansas

The Fairport field in Russell County, Kansas, and western and northern Kansas were joint subjects contributed by T. H. Allen and M. M. Valerius. Mr. Allen dealt particularly with the field in Russell County while Mr. Valerius had as his topic the entire area. According to Allen the field is drilled up with the exception of a few locations to the north and south. Dry holes and small edge wells drilled to the east and west have defined those boundaries. The subsurface structure is anticlinal and production follows the structure on the top and along each side.

Valerius told of his work in attempting to correlate the horizons picked up by wells drilled in north and north central Kansas. He presented a possible cross section of that area as it is between Russell County on the west and Geary to the east. Sufficient data is lacking, he pointed out, to arrive at any very definite knowledge of that district.

H. B. Fuqua took as his topic the South Vernon, Texas, area.

The geology and petroleum resources of the San Marcos Quadrangle of Texas was contributed by E. W. Brucks. The area of the quadrangle is about 1,060 sq. miles, or nearly one twenty-fifth of the area of Texas. The surface formations comprise the upper Comanchean, all of the upper Cretaceous, and the Midway, Wilcox and Claiborn of the Eocene Tertiary.

The regional dip throughout the area is southeasterly. The principal structures are faults paralleling the strike of the formations. Four distinct fault systems occur in the southeast; and the Staples-Lytton Springs, Luling-Burdette Weels-Ciblo, and the Manford systems, which have thrown sides on the northwest.

The Luling structure is a closed uplift of the faulted monocline type and is located on the lower Wilcox outcrop. The Lytton Springs structure is a domal uplift which originated by an intrusion of the igneous material along the small fault and which is located on the Midway outcrop.

Turkey Mountain

The Turkey Mountain sand in Oklahoma was the subject of a joint paper by Paul Ruedemann and H. E. Redmon. The occurrence, Source and relation of the anticline of production in the Turkey Mountain sand was discussed.

The Turkey Mountain "sand" was described as a dolomitic limestone and not siliceous. It has three principal members, and is closely related to the Arbuckle rather than the Simpson. As a rule it is picked up around 200 feet from the bottom of the Wilcox between the Hominy (Bergen) sandstone and the Siliceous lime. Production in the Turkey Mountain is found on closed anticlines where the body is probably thicker than on synclines. The Turkey Mountain has an ultimate recovery of some 8,000 barerls per acre.

(Continued on page 50)

Paleontologists Form Group Section at Tulsa Meeting of A. A. P. G.

Tulsa.—Organization of the paleontological section of the American Association of Petroleum Geologists was completed at the Tulsa meeting. Officials for the group, chosen Friday morning, are Dr. J. J. Galloway, professor of paleontology and stratigraphy of Columbia University, president; D. D. Hughes of the Marland Oil Company of California, vice-president; Marcus A. Hanna of the Gulf Production Company, Houston, secretary-treasurer; and Dr. Joseph A. Cushman of Sharon, Penna., editor of the new publication, The Journal of Paleontology.

Papers read at the session of the paleontological group included:

"Lowest Known Tertiary Diatoms in California," G. D. Hanna.

"The Use of Evolutionary Changes in Geologic Correlation," N. L. Thomas.

"Changing Characters in Some Texas Species of Guembelina," N. L. Thomas and E. M. Rice.

"The Nomenclature of Some Common Genera of Foraminifera," J. J. Galloway.

"Pleistocene Foraminifera From the Lomita Quarry, Palos Verdes Hills, California," J. J. Galloway and S. G. Wissler.

"A Lower Pico Foraminifera Fauna From Southern California," G. H. Doane and S. G. Wissler.

"Additional Pennsylvania Foraminifera of the Glenn Formation of Southern Oklahoma," G. H. Harlton.

"The Value of Micropaleontology," E. O. Ulrich.

"New Faunal Evidence From the Tensleep Formation, Wyoming," A. E. Brainerd and I. A. Keyte.

"Sedimentary Petrography in the Gulf Coast Region," Marcus A. Hanna.

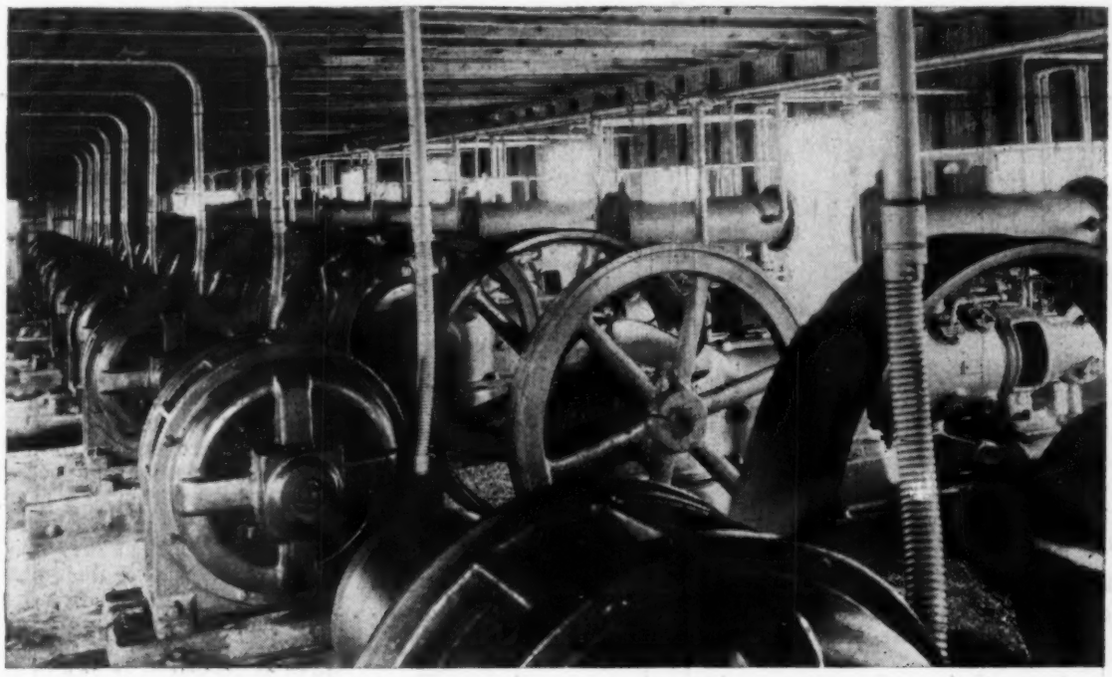
"Small Fossils From the Midway Formations of Texas, Other Than Foraminifera," F. B. Plummer.

"Some General Hints on the Study of Foraminifera for Descriptive and Correlation Purposes," J. A. Cushman.

"The Use of Evolutionary Changes in Geologic Correlation," N. L. Thomas.

"Microfossils in the West Texas Geologic Section," Hedwig T. Kniker.

"Microscopic Identification of Formations at Amarillo," Joseph Maucini.



ELECTRICALLY DRIVEN COMPRESSORS OF THE AMERADA PETROLEUM CORPORATION ON THE FIXICO LEASE AT SEMINOLE

Latest Methods and Equipment Being Installed at Seminole

Early hook-ups of air and gas lifts are now being replaced by more efficient installations

By GEORGE REID
Staff Representative

THE Seminole field is the first in which the air-gas lift system of artificial flowing of oil wells has been extensively applied while the field was in the flush production stage of development. The low gas factor concurrent with the oil production in the Seminole area was an early indication that flowing wells would not flow naturally for any great length of time, and this condition has led practically every operating company in the territory to the provision of means of artificial stimulation.

Usually the air lift system, which predominates over the gas lift has been used or applied to the wells at the time they started flowing by heads. This practice marks the first instance in Oklahoma where general intensive use of the air lift has been resorted to in a flush field and before the wells have declined to such an extent in production that their operation by such methods as pumping and swabbing became unprofitable.

In virtually all other fields where air-gas systems have been applied, the pressure was put on the wells after they had been producing either by natural flow or on the pump, over a period of six months to a year or longer. The early activity of the economical air pressure method has been a factor of great importance in the maintenance of the Seminole area's high production figure. Just what the permanent effect or ultimate results of this method of stimulated artificial flow will be on the wells and the field in general, is a question that is still open to speculation.

Up to the present time the air-gas system has been employed with excellent results in so far as continued production at low cost per barrel of oil produced is concerned.

Compiling an accurate survey of air-gas lift installations in the Seminole area is one of those things which is near impossible. Every producing company in the district has installed compression plants. Practically all of those operators are at present constructing more plants or enlarging those earlier installations.

The air and gas lift installations as of February 15, 1927, of all companies in the Seminole area, are published as the latest available resume of the Seminole Air-Gas lift situation. This survey, however, is the first of its kind to be issued. The information represents the combined efforts of all scouts in the field and should be as accurate as it is humanly possible to get it.

This compilation serves the purpose of the present discussion, which is to show the rapidity with which the gas-air lift work in the Seminole area has grown into the stage of intensive development, as well as to discuss the results of such work.

Table 1 is a detailed compilation of all of the available data on February 15.

The volume and pressure of air or gas used to flow each well is not shown for the reason that these items are subject to more or less frequent changes. The pressure employed, however, ranges between 200 and around 450 pounds, while the volume of air or gas discharged or cycled through the well ranges, in general practice, from 300,000 to about 1,000,000 cubic feet per well per day.

Air Applied Early

It will be seen from an inspection of the table that the time elapse between

ONE OF A NUMBER OF COMPRESSOR INSTALLATIONS MADE AT SEMINOLE DURING THE BAD WINTER WEATHER

the date of completion of the wells, to the date upon which the wells were of necessity, put on the compressor, runs from two days to about one month, generally. Many wells would not flow sufficient oil upon completion, or "died" early and were operated under pressure within a few hours of their completion. Others flowed naturally for a few weeks before the flow stopped and air pressure was applied. There are numerous examples of wells, which upon the application of the air lift, were not only restored to the original flush production figure, but were very satisfactorily increased above that figure.

There is an interesting example in Carter Oil Company Grisso 6, which was completed for only a 320-barrel well, and when one week later the well was flowed under pressure the production was increased to 1250 barrels. Carter's Lukes 2 came in flowing 485 barrels, but 17 days later the air lift system recovered 6165 barrels of oil. Gypsy Oil Company's Wofle 1 was put on production on November 2, 1926, flowing 10,515 barrels, which later dropped to 2990 barrels. The air lift when applied on February 15, produced 4575 barrels.

Indian Territory Illuminating Oil Company had an interesting experience with its Bowlegs 5, completed January 11, producing 635 barrels. This dropped to 54 barrels, but when the air lift was applied on January 30, the production was increased to 1960 barrels, and on February 15 a still further increase was reported with the well producing 2314 barrels. The same company's James 7 was completed October 19, 1926, producing 1593 barrels and although the flow increased to 1655 barrels, it was put on air lift on December 9, 1926, and made to produce 2486 barrels. Three months later this well was still producing on the air lift at the rate of 2195 barrels daily.

Pure Oil Company, in its Strother 8, completed January 25, flowed 102 barrels, then died. On January 27, the air lift was applied and the well produced 3358 barrels. Two weeks later it was still yielding 2750 barrels. Strother 9 started off at 41 barrels. Air was applied with the result that a 1600-barrel well was secured.

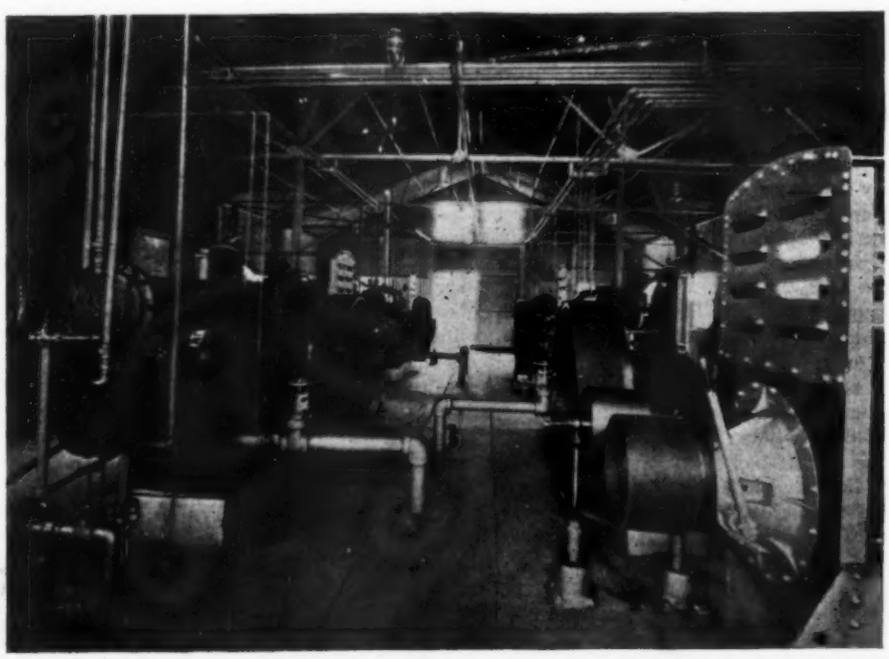
The above enumerated experiences of a few companies picked at random from the table are not to be taken as indicative of general results. Each separate well enumerated in the table has behaved differently, and each itemized individual well upon which a record is shown is a story of great interest in itself. A study of the completed tabulation, considering the success and results of all of the group, will then enable one to form some conclusion as to the reason for the intensive application of the air-gas lift method to the entire district of Seminole.

Installations Rapid

The column of the table showing the type of compressor equipn ent employed by each company and in operation, is of course, inadequate. During the past month a great number of compressors have been delivered or installed in the fields. A plant shown in the table consisting of 5, 6 or 10 compressors, may now be twice that size. A company operating 2 or 10 compressors on one lease a month ago, by now may be operating or installing a dozen compressors on several leases. Again, where a company has reported the operation of one of two types of compressor machines they may now be operating seven or eight types of compressors. The information is given to show only the number of compression machines employed in the gas-air lift work on February 15 and in actual operation. At the time of the resume as given herewith there were reported in operation a total of 145 compressors, and a part of those in service was not included. There were no doubt, another 245 machines in the field during February awaiting installation.

Table 2 is a compilation of data taken from the first table. This tabulation shows the production by company for the entire district giving initial production, last production before air lift, production upon the application of pressure, number of wells being flowed, and the production of these wells on February 15.

Although production figures have changes perhaps dozens of times for each company listed since this compila-



GYPSY OIL COMPANY'S PLANT ON THE WOLFE LEASE. CHICAGO PNEUMATIC COMPRESSORS DRIVEN BY WAUKESHA MOTORS

Resume of Seminole Air-Gas Lift Situation On February 15, 1927

Company	Lease	Well	Location	Completed	Initial Prod	Last gauge before lift	Date Init.	and Prod on lift	Production 2-15-27	Compressor Equipment
Amerada	Fixico	1	23-9-6	2- 8-27	325	205	2-15-27	1080	1080	
Amerada	Fixico	2	23-9-6	12-19-26	6,501				1799	
Amerada	Fixico	3	23-9-6	12- 7-26	5,515				2308	
Amerada	Fixico	4	23-9-6	12-24-26	5,205				2380	
Amerada	Killingsworth	2	23-9-6	1-14-27	316	1,506	1-18-27	1506	775	
Amerada	Killingsworth	4	23-9-6	1-27-27	515	1,248	2- 8-27	1248	1111	26 Chicago Puenmatic
Amerada	Rentie	1	23-9-6	12-24-27	2981		1-26-27	2160	1635	
Amerada	Rentie	2	23-9-6	1- 9-27	2614		1-21-27	1846	130	
Amerada	Rentie	3	23-9-6	2- 2-27	566	240	2-15-27	2069	2069	
Amerada	Rentie	4	23-9-6	2-20-27	526		2-22-27	1895	1635	
Atlantic	N. Cudjo	1	35-9-6	2- 2-27	1025	1025	2- 6-27	3646	2195	1 Chicago Pneumatic—3 Ingersoll Rand
Independent	J. Cudjo	1-A	35-9-6	2- 8-27	450	20	2-15-27	785	785	3 Ingersoll Rand
Barnsdall	Carter	2	24-9-6	10-26-26	3191	49	1-20-27	1511	871	2 Ingersoll Rand—2 Chicago Pneumatic
Barnsdall	Carter	6	24-9-6	1-25-27	1147	300	1-29-27	2718	2400	
Carter	R. Cudjo	2	35-9-6	2-12-26	295	295	2-15-27	3935	3935	6 Ingersoll Rand
Carter	Grisso	2	23-9-6	12-28-26	4350	4,500	1- 5-27	6955	6680	
Carter	Grisso	5	23-9-6	2-16-27	150	20	2-23-27	3000	....	2 Chicago Pneumatic
Carter	Grisso	6	23-9-6	2- 8-27	320	320	2-15-27	1250	1250	
Carter	G. F. Killingsworth	1	14-9-6	1-25-27	3580	....	....	....	2400	
Carter	G. F. Killingsworth	2	14-9-6	2- 9-27	3600	....	....	....	....	
Carter	M. Killingsworth	3	23-9-6	1-25-27	1500	....	....	....	2480	8 Ingersoll Rand
Carter	Lukes	1	27-9-6	12-28-26	4355	2,390	1-25-27	3675	3155	
Carter	Lukes	2	27-9-6	2- 1-27	485	485	2-18-27	6165	6058	4 Ingersoll Rand
Carter	Strothers	1	34-9-6	1-31-27	4695	4,235	2-14-27	5165	4840	12 Ingersoll Rand
Empire	Wilson	1	34-9-6	1- 2-27	490	490	1-22-27	952	824	2 Chicago Pneumatic
Gypsy	Carter	1	24-9-6	9- 6-26	4155	1,716	10-19-26	1926	800	
Gypsy	Carter	7	24-9-6	1- 4-27	2402	750	2-10-27	1550	1550	6 Chicago Pneumatic
Gypsy	Carter	8	24-9-6	1- 8-27	2247	1,820	1-15-27	2242	1150	
Gypsy	Harjo	1	25-9-6	1-18-27	1005	1,770	2-17-27	2490	1955	2 Chicago Pneumatic
Gypsy	Wolfe	1	26-9-6	11- 2-26	10,515	2,990	12-15-26	4575	3858	
Gypsy	Wolfe	4	26-9-6	1- 4-27	2900	2,770	1-17-27	3240	547	6 Chicago Pneumatic
Gypsy	Wolfe	5	26-9-6	2-16-27	347	....	2-16-27	4561	4850	
Gypsy	Butler	1	35-9-6	2-18-27	230	230	2-19-27	1250	....	
Gypsy	Butler	2	35-9-6	2-23-27	270	102	2-28-27	1006	1102	4 Chicago Pneumatic
Gypsy	M. Cudjo	1	4-9-6	2-22-27	410	225	....	2470	1092	2 Chicago Pneumatic
Independent	Fixico	1	26-9-6	8- 4-26	5680	1,000	12-26-26	3480		
and	Fixico	2	26-9-6	9-29-26	4617	740	12- 2-26	2947	2537	
Garland	Fixico	3	26-9-6	10-11-26	2990	....	1- 7-27	3764		2 Chicago Pneumatic
"	Fixico	4	26-9-6	11- 3-26	2987	800	12- 4-26	3478		5 Ingersoll Rand
"	Fixico	6	26-9-6	12-16-26	1000	200	12-29-26	5575	2090	
"	Fixico	7	26-9-6	2-16-27	200	200	2-13-27	4644		
Independent	Jones	1	26-9-6	11-10-26	4649	....	12-24-26	4215		
and	Jones	2	26-9-6		1000	1,000	1-27-27	3798	6184	6 Chicago Pneumatic
Inter-Ocean	Jones	3	26-9-6		1000	340	1- 4-27	1500		5 Ingersoll Rand
I. T. I. O.	Bowlegs	2	26-9-6	10-24-26	2060	85	1-27-27	599	320	
I. T. I. O.	Bowlegs	3	26-9-6	10-26-26	10,663	2,421	12-27-26	3770	3770	4 Chicago Pneumatic
I. T. I. O.	Bowlegs	5	26-9-6	1-11-27	635	54	1-30-27	1960	2314	6 Cooper
I. T. I. O.	Harjo	3	23-9-6	1-11-27	1300	197	1- 7-27	1475	1475	3 Chicago Pneumatic
I. T. I. O.	James	7	24-9-6	10-19-26	1593	1,655	12- 9-26	2486	2195	2 Clark
Mid-Continent	Rentie	1	14-9-6	10-19-26	4920	217	1-28-27	1330	no gage	
Mid-Continent	Rentie	6	14-9-6	2-16-27	300	200	2-21-27	1440	no gage	2 Ingersoll Rand
Mid-Continent	Tayeche	3	24-9-6	1-11-27	2160	....	1-30-27	1440	no gage	
Mid-Continent	Tayeche	4	24-9-6	10-19-26	2160	435	2-16-27	550	no gage	
Philmack	Butler	1	35-9-6	2- 1-27	2405	1,830	2- 8-27	3655	3285	2 Chicago Pneumatic
Philmack	Kincaid	2	33-10-6	10-30-26	5905	....	....	....	....	5 Chicago Pneumatic
Philmack	Strothers	1	27-9-6	1-16-27	9635	730	12-26-26	3890	no gage	
Philmack	Strothers	3	27-9-6	1-18-27	1980	1,210	1- 8-27	2340	no gage	5 Ingersoll Rand
Pure Oil	Strothers	1	26-9-6	10-25-26	6000	2,530	11-30-26	3705	2335	
Pure Oil	Strothers	2	26-9-6	11- 3-26	9019	2,023	12-20-26	3163	2064	
Pure Oil	Strothers	3	26-9-6	10-24-26	3135	1,120	12- 3-26	3065	2900	
Pure Oil	Strothers	4	26-9-6	10- 2-26	4656	1,943	12-19-26	2476	2327	
Pure Oil	Strothers	5	26-9-6	10- 2-26	3640	1,500	11-28-26	2500	1200	6 Chicago Pneumatic
Pure Oil	Strothers	6	26-9-6	12-28-26	200	....	12-30-26	2089	off	1 Laid Law
Pure Oil	Strothers	8	26-9-6	1-25-27	102	....	1-27-27	3358	2750	14 Ingersoll Rand
Pure Oil	Strothers	9	26-9-6	2-16-27	41	....	2-19-27	1663	1663	16 Bessemer
Pure Oil	Strothers	10	26-9-6	1-25-27	299	299	1-23-27	1588	1588	
Pure Oil	Strothers	11	26-9-6	1-25-27	HFO	147	1-28-27	3959	3959	
Pure Oil	Strothers	13	26-9-6	2-16-27	HFO	100	2-16-27	3798	3395	
Pure Oil	Strothers	17	26-9-6	2-16-27	HFO	50	2-16-27	3798	3798	
Searight	Youngblood	3	33-10-6	10-26-26	448	....	2-15-27	866	370	
Sinclair	Cudjo	A-2	35-9-6	2-27-27	HFO	....	2-14-27	5380	5530	1 Clark—4 Ingersoll Rand
Sinclair	Cudjo	3	35-9-6	2- 9-27	120	400	2-18-27	1450	1450	4 Worthington
Sinclair	Cudjo	4	35-9-6	1-25-27	HFO	....	2- 4-27	....	2045	2 Coopers
Sinclair	Cudjo	5	35-9-6	1-25-27	HFO	1,050	2- 4-27	3575	3220	
Sinclair	Cudjo	B-3	33-10-6	10-26-26	4480	....	2-15-27	866	370	1 Clark—4 Ingersoll Rand
Superion	Grisso	1	35-9-6	11- 3-26	10,268	....	1-25-27	3907	3670	
Superion	Grisso	2	35-9-6	1-25-27	HFO	....	1-25-27	3692	3122	9 Ingersoll Rand
Superion	Grisso	4	35-9-6	1-25-27	HFO	....	1-25-27	1244	088	
Tidal	J. Carter	1	24-9-6	12-28-26	1405	210	12-12-26	570	no gage	
Osage	J. Carter	4	24-9-6	12-21-26	2550	175	1-18-27	615	no gage	
Osage	Fixico	1	26-9-6	10- 2-26	2040	200	2- 4-27	2400	no gage	
Osage	Fixico	3	26-9-6	11- 3-26	3110	....	12-12-26	1500	no gage	6 Chicago Pneumatic
Osage	Fixico	4	26-9-6	11-23-26	513	135	12-21-26	745	no gage	9 Ingersoll Rand
Osage	Fixico	5	26-9-6	12- 8-26	2160	212	12-12-26	862	no gage	2 Cooper
Osage	Fixico	7	26-9-6	1-25-27	2550	550	1-22-27	1550	no gage	
Osage	Harjo	4	23-9-6	2- 1-27	200	145	2-15-27	560	700	
Osage	Harjo	6	23-9-6	1-11-27	200	125	2-15-27	872	125	12 Chicago Pneumatic
Osage	Mahardy	2	24-9-6	10-18-26	4465	725	12-22-26	1215	....	3 Worthington
Osage	Mahardy	3	24-9-6	12- 2-26	1800	650	12-23-26	1845	1405	4 Cooper
Osage	Mahardy	4	24-9-6	12- 1-26	1720	640	2-12-27	1662	no gage	
Osage	Tayeche	1	25-9-6	12-21-26	3400	125	1- 7-27	652	3215	3 Worthington
Turman	Cudjo	3	35-9-6	2- 9-27	311	311	2- 9-27	3698	088	6 Chicago Pneumatic

tion, the table shows the results of the air lift development up to that time. More wells have been on air, so it follows that more production by air is the case at present. It is roughly estimated that somewhere between 50 and 75 per cent of the production of Seminole proper is lifted by artificial pressure methods.

Started As Experiment

The air-gas lift work at Seminole was started in a small and experimental way by a few companies during the month of October, 1926. At that time the Amerada Petroleum Corporation was experimenting with one of its wells. In section 24-9-6 on the Carter lease the Gypsy Oil Company installed a compression plant and placed its Carter 1 on air, October 19. So far the records show these two companies were the only ones pioneering the method during the month of October.

The Pure Oil Company erected the nucleus of its present immense compression plant installation in November and on the 28th of that month it applied air pressure to its Strothers 5, with the result that it was increased from 1500 to 2500 barrels production. On November 30 Strother 1 was placed on the air lift with similar satisfactory results. During this time the Indian Territory Illuminating Oil Company was conducting a series of tests to determine the practicability of the air-gas lift. Independent-Garland and Independent-Inter - Ocean, Tidal-Osage, and Philmack Oil Company were others who were seriously investigating artificial flow methods at this time.

During December, 1926, the air lift method began to gain momentum in its development, and that period of 30 days saw the beginning of the growth and development of this practice which led to the magnitude of its present application in the field. At the end of December there were 23 wells, as shown by the survey, which were being artificially flowed by outside methods. There were not more than nine compression plants in the entire field and that figure may be a slightly high estimate.

During the first 15 days of January, 1927, six more wells were made to produce under the air-gas method, which brought the total up to 29 wells.

By this time a great deal of interest was aroused and the problems concurrent with gas-air flow methods were attacked with vigor—information relative the proper equipment, the correct spacing of tubing and casing, was freely interchanged, gas lift and, or, air lift departments were speedily organized and the work placed in the hands of those deemed most capable. These departments are to be commended for the co-operative and friendly spirit with which they dealt with one another, and for the abrupt manner in which they shook off the ancient shackles of secrecy, once so prevalent in oil field development. Although the winter was upon them, these gas lift departments of the various companies have been instrumental and responsible to a great extent for the accomplishment of what seems to be a super-human achievement. Despite the lack of roads, (for there were none all winter), with labor unwilling to work, or the weather too cold or wet to accomplish much when they did show up, and despite the congestion and the extreme difficulty in effecting delivery of machinery and equipment to the over-crowded towns and to the fields, the work of installation of compression plant after compression plant has gone steadily and rapidly ahead.

During the latter part of January, 1927, and in the face of apparently impossible conditions, 23 wells were placed on the compressor in the Seminole field. This is equal to the number installed from October, 1926, to the end of the year. The total number then operating under artificial stimulation was 52 wells.

In the first half of February, with more rain and snow, there was a total of 23 more oil wells placed on the compressor and forced to flow by artificial means. The total then was about 75 wells. This implies the installation of a great number of compressors, which task fell upon the field men at the very worse time of the year.

Between February 15 and 28, another 10 wells were placed on the air-gas lift as is shown by the survey. This brings the total to 85. There are another eight wells, of which there is no full report, which were placed on the compressors some time between January 1 and February 28. Thus the total number of wells flowing under the air-gas method was 93, and this number is within one or two of being correct.

A recount of the number of compressors reported to be in service at the end of this period totals about 250 machines. At the end of the year the estimated number of compression plants was but nine, and the total number of compressors is unknown. It is within reason, however, to estimate that on the first of January, 1927, there were not over 50 compression machines in actual operation in the field. Subtracting 50 from the total number of 250 of February 28, leaves the number of compressors at 200, which were connected, installed, or the work begun on them previous to that time was finished, during the months of January and February of this year.

With an estimated total number of compressors in operation February 28, of 250, some idea as to the number of pressure plants in the field may be secured by arbitrarily choosing a number, such as 10, of compressors per plant, in an effort to strike an average. The actual number of compressors per plant ranges from 4 to 14, 16 and 20. One company has 37 machines in operation on one site. Many have 3, 5, 7, 10, and so on. Taking 10 as the average number of compressors per plant, then there are around 25 air-gas lift compression plants in the Seminole field. This number may be a little low or high, but there is no means at hand for confirmation of the figure. Perhaps the next survey will include this information.

The air-gas lift work is distributed in its operation throughout the entire Seminole field. The check of the number of wells flowing under artificial means discloses, naturally, that the greatest number of wells on air or gas are in the area of most intense drilling and production. The upper limit of the Seminole field is in sections 13 and 14-6-9. Production is scattered and not great in these sections. No wells were on air in section 13, and but two were on the compressor in section 14. The major section of the field lies in sections 23, 24, 25 and 26-6-9. Here the air lift system is intensely applied. In 23-9-6 there were 16 wells so producing. In 24-9-6 there were 15 on air or gas In section 25-9-6, which is not contributing much oil to the total production, there were but two wells on air. Section 26-9-6, however, where the Gypsy, I. T. I. O., Pure, Tidal, Independent-Garland and Independent-Inter-Ocean Companies all hold some excellent properties, the air-gas lift system has been thoroughly applied, and 32 wells were operating under that method. Section 35-9-6 comprises another very productive area and 15 wells were on the compressor in that part of the pool, section 35 and 36, being directly south of section 25 and 26, discussed above. In section 34-9-6 there were but two wells operating on air or gas pressure. Two wells producing under the air-gas lift system in the Searight pool, section 33-106 were included in the survey.

SURVEY OF AIR LIFT INSTALLATIONS IN OPERATION IN SEMINOLE LATER PART OF FEBRUARY, 1927.

Company	Total initial production	Last Gage before air lift	First production air lift	Number of wells	Production February 15th
Amerada	24,960	....	.....	10	14,992
Barnsdall	4,338	349	4,229	2	3,271
Carter	35,500	12,770	20,657	10	27,625
Empire	490	490	952	1	824
Gypsy	13,762	5,760	12,376	10	9,240
I. T. I. O. Co.	16,251	4,412	10,290	5	10,055
Independent	24,123	4,280	33,401	9	10,811
Mid-Continent	9,590	852	4,120	4	4,000
Philmack	2,405	1,830	3,655	1(?)	3,285
Pure Oil	27,092	9,722	35,162	12	27,979
Searight	4,480	....	866	1	370
Sinclair	1,330	2,660	15,473	5	16,755
Superior	10,208	....	8,843	3	6,880
Tidal-Osage	31,462	3,832	15,048	13	14,000
Turman	311	311	3,698	1	3,500
Totals	206,302	47,268	168,770	87	153,587

March Average 39,340 Barrels Above February

Crude price cuts had no appreciable effect upon volume of development work, and initial production shows gain

By A. R. McTEE
Staff Representative

DURING March, production of crude oil in the United States showed a daily average of 2,469,500 barrels, a gain of approximately 39,340 barrels, as compared with February. The total output for the month was 76,554,610 barrels.

Drilling showed no great change over the previous month. The total decrease in completions was 84, shared by producers, gas wells and failures. Initial production gained 37,103 barrels.

The drastic cut in crude oil prices naturally had a weakening influence on field activity, but there was not the general let-up in drilling that might have been expected. In many fields where work was intensive at the time of the cuts, oil that had previously been sold was run into storage without any change in the drilling program. This was especially true of the Texas Panhandle, where drilling held steady.

Areas showing gains in completions during March included Rocky Mountain States, Oklahoma, Arkansas, Tennessee and Texas, with the last named leading all the others.

Oklahoma, Texas and Louisiana were largely responsible for the gain in daily average production.

Seminole Drops

Seminole, in Oklahoma, was the key to the Mid-Continent production situation. Production in this pool as shown by A. P. I., figures was 296,200 barrels on March 4, and at the close of the month had declined to about 276,850 barrels.

It should be mentioned, however, that these figures are pipe line runs. At a recent hearing before the Oklahoma Corporation Commission, Ray Collins, umpire of the Seminole district, stated that actual production of the field was 305,000 barrels daily, with 20,000 barrels shut in for lack of handling facilities.

Tank builders have so far managed to keep ahead of Seminole output and at the close of the month there was tankage under construction totaling approximately 1,390,000 barrels.

On March 18 there were 442 tests drilling in the Seminole district, 87 of which were below 3700 feet. A week later, drilling wells had increased to 451.

Discovery of a new pool toward the south, known as the Lima area, looked upon by many as having fully as high potential output as Seminole has shown, makes the district practically as menacing as it was a month ago.

California

During the month a number of new districts were discovered. California interest centered about a high gravity field at Coleta, proved by completion of a 440-barrel well by the E. J. Miley interests. The well is located 40 miles from the nearest production, which is Ventura Avenue. The nearest town of importance is Santa Barbara, 17 miles east. E. J. Miley controls a block of 5000 acres surrounding the well, and has announced that development will be conservative.

Early in the month excitement at Seal Beach was heightened by the Naples extension, making the field include Seal Beach, Naples and Alamitos Heights. At the beginning of March Seal Beach output was 25,400 barrels. At the close of the month the yield was above 32,000 barrels daily. More than 40 wells were drilling, 56 rigs were being held in readiness for immediate use and 35 outfits were awaiting orders. In addition 44 new locations had been staked. With this activity in sight, predictions have set a high production peak for Seal Beach within the next two months, with rumors that the gain in yield will probably force a readjustment of prices on the west coast.

Water troubles appeared in five wells late in the month, causing considerable speculation as to influence it will have on production.

At Huntington Beach, water encroachment resulted in an important slump in output.

New Mexico

Thirteen miles east of the Maljamar field in New Mexico, a wildcat being drilled by Inglefield Bridges et al had a show which indicates a probable field. Oil stood 800 feet in the hole, and attempts were being made to flow the well. This test is on the cap rock or staked plains. Paleontologists are giving much study to this section, trying to link production in the Texas Panhandle with that in New Mexico, and the wildcat mentioned above might be considered good evidence on which to help base such a theory.

The California Petroleum Company completed two 500-barrel producers in an unexplored sector of the Kevin-Sunburst, Montana field, and plans much activity in further development during the spring. It is estimated that about 20 new locations per week will be staked, beginning within a short time. Market conditions in the Kevin-Sun-

MARCH U. S. PRODUCTION

Following is the gross estimated production of crude oil in the United States for March as compiled by The OIL WEEKLY:

California	19,931,450
Mountain States	2,719,075
Eastern States	3,274,375
Texas	19,348,765
Oklahoma	21,979,555
Kansas	3,399,475
Louisiana	2,014,540
Arkansas	3,887,375
Total	76,554,610
February	68,044,540

PAST TWELVE MONTHS

The record for the past twelve months is an interesting study for comparison purposes, the following table giving field statistics for all states in the Union.

Month—	Completions	Producers	Gas Wells	Failures	Initial Prod.
February, 1926	1,695	989	197	509	197,958
March	1,891	1,156	211	525	214,488
April	2,311	1,468	224	619	317,173
May	2,082	1,250	179	653	256,114
June	2,188	1,365	178	645	231,473
July	3,068	1,919	287	862	358,646
August	2,368	1,507	206	655	361,165
September	2,480	1,602	217	661	318,787
October	2,916	1,914	264	738	449,081
November	2,405	1,473	279	653	430,847
December	2,754	1,774	301	679	469,242
January, 1927	1,989	1,257	192	540	315,948
February	1,965	1,215	225	525	284,016
March	1,881	1,190	175	516	321,119

UNITED STATES FIELD STATISTICS

Following are the completions showing producers, gas wells, failures, and initial production of crude by states for the month of March, as compiled by The OIL WEEKLY:

County—	Completions	Producers	Gas Wells	Failures	Initial Prod.
California	64	61	1	2	42,082
Kansas	118	54	4	60	10,486
Kentucky	90	74	1	15	2,001
Michigan	19	18	..	1	335
Mountain States	47	37	..	10	21,765
New York	24	24	..	..	79
Ohio	103	58	26	19	1,553
Oklahoma	368	220	38	110	123,188
Pennsylvania	127	106	15	6	657
W. Virginia	107	32	63	12	383
Louisiana	56	19	6	31	3,359
Illinois	6	6	..	..	64
Indiana	9	4	1	4	5,293
Arkansas	47	21	2	24	921
Tennessee	4	4	..	..	120
Texas	692	452	18	222	108,833
Totals	1,881	1,190	175	516	321,119
February	1,965	1,215	225	525	284,016

burst area have been good during the winter, and operators are optimistic for this spring's drilling.

North Texas

March proved to be the turning point in the growth of field work in the North, Central and West Texas districts, as result of severe crude price cuts, but the number of completions for the month remained at a high level. Curtailment of new locations became noticeable towards the latter part of the month in most of the fields, and a number of drilling rigs were placed on the inactive list in Hutchinson County section of the Panhandle, through mutual arrangement with adjoining lease owners.

Developments in West Texas revealed considerable more potential flush output of crude than heretofore credited to this section of the State. Winkler County joined the list of flush areas with the completion of Gulf's Hendricks 1, gauging 180 barrels of 29 degree gravity oil per hour at 2824-42 feet. This new producer is a southeast offset to the discovery well, and is the second oil well drilled in the county. A drilling campaign is getting started on the strength of the spectacular showing of the second well for the field. The Church and Fields area, Crane County, received two minor extensions to the proven area with a 300-barrel per hour well by Simms and Atlantic on the University of Texas free land, while Tidal et al completed a 4450-barrel producer on an adjoining lease. Gulf's McElroy field was extended to the southeast and to the north with 1000-barrel producers during March, indicating a relationship with the Church and Fields area. The Yates shallow oil field in Pecos County was extended to the north and east with flowing wells, but limited storage facilities necessitated the closing in of production there. The McCamey-Hurdle district, centering on the Crane-Upton County line, experienced a dull month, with field work on the decline as a result of crude price cuts. The shallow oil field in Howard County added 11 pumpers, and several minor extensions.

The reduction of crude prices to 95 cents per barrel in Hutchinson and Carson Counties led to widespread efforts to hold drilling down to a minimum in these two active sections of the Panhandle. A general shut-down movement failed, but individual operators worked out agreements with adjoining property owners to halt new locations and the drilling down of tests under way until crude prices and market conditions return to a normal level. Field work on the Panhandle during March was confined to routine developments, with a normal number of completions in the various fields comprising the district.

Cooke County added a new pool for the North Texas district during March with the successful completion of the C. C. Lanier and Chapman Oil Company's wildcat test on the Montgomery farm, located several miles south of the Hooser field in the western part of the county, with an initial output of 200 barrels at 1318 feet. Field work in Archer, Wilbarger, Wichita, Montague and Young Counties registered a prompt decline following the announcement of the third crude price cut for the year, and wildcat drilling has also been curtailed for lack of market for acreage offered to oil companies to help defray drilling costs. The Turbeville field was the most active area in Archer County during March, while the Fluhman, or West Vernon field, held the spotlight in Wilbarger County. However, the initial production of recent completions in the latter field have been considerably less than the first group of wells brought in earlier in the year.

Shallow Completions

A big quota of completions in the shallow oil horizon in Brown and Shackelford Counties represented drilling efforts started prior to the cutting of crude prices, and a decline is in store for this section of the Central-West Texas district. Roeser-Pendelton, Inc., and Marland Oil Company, who have joint interests in the Cooke Ranch field, Shackelford County, clamped the lid down on new locations after the reduction of crude prices, and also halted a number of tests partially drilled to the pay level. Eastland County added the greatest amount of new production during March than has been scored for some time, due to the successful completion of flowing wells in the Gohlson-Duffer field, and in the McAllister district.

Other than several stripper completions on the west flank of the Mexia field, and shallow completions near the Corsicana-Powell field, the East-Central Texas fault region experienced an uneventful month.

New East Texas Area

What appears to be a new field to be reckoned with was discovered by Humble Oil and Refining Company, on March 21, in the Jacksonville area, Cherokee County, Texas, about 15 miles west of Jacksonville. The best test on the well so far showed 121 barrels in one hour and 44 minutes, through a ¼-inch choke. The oil tested 41 gravity and is coming from the Woodbine sand, at 3841-49 feet.

Humble owns leases on 14,000 acres surrounding the well and will pursue a conservative policy in development. The general policy will be to keep the oil under ground until conditions warrant producing it.

This discovery brings an entirely new producing area to Texas, between the coastal district and the string of fault line fields. Geological opinion is that the Woodbine sand in this locality is banked against a small salt dome, as salt was cored in another test. Shows of oil have been found in the vicinity for several years.

Details for all U. S. fields in March found on page 56

Location of another salt dome in the Coastal territory, and extension of the Spindle Top field, were the chief items of interest to coastal operators. The Pure Oil Company proved a dome in the Old River territory, between Barbers Hill and Moss Bluff, in Chambers County. The seismograph was responsible for discovery of the dome. Pure succeeded in blocking all the acreage surrounding the dome and has not yet announced development plans.

On its tank farm in the Spindle Top district, Magnolia Petroleum Company completed a 2300-barrel, extending Spindle Top 600 feet toward the south. As a result of this well, six others are now drilling in the vicinity.

Production at Spindle Top was about 55,000 barrels at the close of the month.

Further testing in Austin County, where Humble Oil and Refining Company has had a number of good shows of oil and several gas blow-outs, was done, but no further important developments were made.

Louisiana

Plain Dealing and Pleasant Hill were the high spots of interest in North Louisiana.

At Plain Dealing, Bossier Parish, a gas well spraying 25 barrels of oil was completed. Attempts were being made to make the well flow, either by deepening, or by the use of tubing. The show of oil was sufficiently encouraging to result in much leasing and laying of plans for further testing. Another Cotton Valley was the judgment of many who saw the well.

Pleasant Hill, in Sabine Parish, is undergoing a small boom. A new town in being built, three tests are now drilling, and others are getting ready to start. Magnolia Petroleum Company is building a warehouse in the district and building derricks for two wells.

The discovery well is flowing 218 barrels daily.

Most of the activity in Arkansas centered at Smackover, but the average initial production was only 34 barrels.

A joint test made by Barnsdall Oil Company, the Independent Oil and Gas Company, and Marland, in Cowley County, Kansas, had a good show at 3481 feet. Indications are that the territory northeast of the well will get big play. Location of the test is one and one-half miles north of the Rainbow Bend field, on the Silas Thurlow farm.

The new Churchill pool in Kansas, was extended both toward the north and south with small wells.

Eastern and Central States showed the normal amount of field work and barely held their own in production.

Geology of the Panuco District

By CHAS. LAWRENCE BAKER

THE Upper Jurassic section of Northeastern Mexico is best known from outcrops in the Cordillera from Monterrey southwards to south of the latitude of Tampico. There appears to be Jurassic older than the upper division in the mountains southwest and south-southwest of the Tampico district. The Upper Jurassic in the mountains north of the latitude of Tampico rests upon red beds and gypsum. Extensive gypsum deposits so greatly crumpled under planes of overthrusting that they locally resemble salt domes and greatly obscure the relationships of the Jurassic with the older strata. The red beds are cut by quartz veins and apparently more greatly deformed than overlying beds. This would indicate angular unconformity between Upper Jurassic and older beds. The thrust movements have, however, introduced complications and a large amount of careful work on the mountain stratigraphy must yet be done before we can be sure of the exact stratigraphy of strata older than the Kimmeridge.

THE geology of the Panuco district of Mexico has for sometime offered a most interesting subject for study and research but before the preparation of the accompanying article very little authoritative data has been published on this area.

Dr. Baker's discussion is complete and comprehensive and will form a valuable adjunct to any geological records on Mexico. The length of the article requires more space than was possible to give in one issue so it has been divided into several sections, of which this is the second.

The article will also be published in the Bulletin of The American Association of Petroleum Geologists.

In the Catorce mining district, San Luis Potosi state, a normal succession is present. There a series of partly metamorphosed red beds injected with veins, stringers and lenses of quartz rests on an older basement complex. The red beds are unconformably overlain by unmetamorphosed sedimentary rocks beginning at least as low as the Oxford or lower stage of the Upper Jurassic and grading conformably upwards into Cretaceous. In the mountains east of Catorce the lower 1500 feet of the Upper Jurassic has not been found, although it is represented by strata in the vicinity of Monterrey. It apparently either was never deposited in western Tamaulipas or southern Nuevo Leon or else has been thrust out of the sections heretofore studied. So far as known Jurassic deposition began with the Kimmeridge in the region nearer Tampico and continued without break through the Portland up into the Cretaceous.

The Kimmeridge is a very distinctive horizon of black and brown bituminous phosphatic and marly shales with interbedded dark limestones and a minor amount of dark chert. Various ammonites of the Idoceras assemblage and fish remains are very common although molluscs and other fossils are also found. There is more pyrite and marcasite than in the Cretaceous. Dark brownish-black phosphatic nodules and concretions containing ammonites and Halobia (Monotis) are fairly common. There are some thin beds resembling fullers earth which may possibly prove to be bentonite.

The black color of the shales is caused by bituminous and carbonaceous matter. The shales upon being tested with ether show the presence of abundant oil.

The Portland is lithologically a transition zone between the shaley Kimmeridge and the Cretaceous limestones. There is some shale interbedded with limestones at the base passing up into thin-bedded flaggy limestones with numerous flattened ammointes at the top. Dark chert is often present in nodules and thin layers. The color is dark grey to black at the base, gradually becoming lighter grey in upward succession.

The thickness of the Kimmeridge and Portland is at least 1400 feet in the Catorce section. It thins to the eastward but is probably at least 250 or 300 feet thick in the Panuco section although its total thickness is there unknown. The thickness may be greater in the mountains southwest of Tampico.

The Kimmeridge is one of the most widespread formations in Mexico, known from the Malone Mountains of southwestern Trans-Pecos Texas to the Isthmus of Tehauntepec.

Pre-Jurassic Sedimentary Rocks

There is a coarse-grained light-colored cavernous oolitic dolomite and an underlying limestone, the age and stratigraphic relations of which are unknown, which overlie the red beds in the Altamira section.

The only information we have on the older sedimentaries is from exposures in the eastern Front Range a short distance northwest of Ciudad Victoria, capital of the State of Tamaulipas. The red beds there unconformably overlie sandstones of Keokuk Mississippian age and dark, possibly bituminous shales with some thin interbedded layers of quartzose grits containing Fusulina cylindrica and hence presumably of Pennsylvanian age.

Structural relationships are complex in the eastern Front Range and it is possible other sedimentary rocks will be found in the mountain area between Ciudad Victoria and Monterrey. Basement complex metamorphic and crystalline rocks are exposed at several localities in the mountains of San Luis Potosi, Tamaulipas and southern Nuevo Leon, notably at Catorce, El Huichichal-Joya Verde, Miquihuana-Bustamente and La Presa or Peregrina Canyon.

Depositional History of the Cretaceous and Upper Jurassic

No circumscribed area can be thoroughly understood in history and structure without a thorough study of the surrounding territory. This is more particularly true when we consider a district in which the bedrocks cannot be studied in surface exposures. The explorations of the last two years in the southern half of the State of Tamaulipas and the eastern part of the State of San Luis Potosi, although they have been both hurried and fragmentary, have thrown a flood of light upon many formerly very obscure Panuco problems. Therefore, no apology is necessary in considering historical and structural problems from a regional standpoint. Since satisfactory surface exposures are relatively far distant from the Panuco field, it is prudent not to stress too strongly the exact equivalency of events as determinable in the regions of outcrop. This is particularly uncertain for the times ante-dating the Cretaceous; the Cretaceous of northeastern Mexico furnishes however, a record of large scale and surprisingly uniform depositional history, which once known, simplifies very greatly our more localized tasks in the Panuco field.

A continuous cycle of marine deposition began in northeastern Mexico in the lower part of the Upper Jurassic and lasted until close to the end of the Upper Cretaceous. The tops of some of the highest anticlinal areas in the Front Ranges west of Ciudad Victoria more probably persisted as islands[1] in the sea until as late as the Hauterevian-Valanginian stage of the pre-Trinity Lower Cretaceous. These various deposits of the Upper Jurassic and Lower Cretaceous progressively overlap the Basement Complex, Upper Paleozoic

[1] An alternative explanation is overthrust conditions which certainly occur in these areas.

and possible Lower Mesozoic rocks (Red Beds), indicating extensive erosion of the region before the Upper Jurassic. Rocks of Upper Jurassic and pre-Fredericksburg Cretaceous appear to be entirely concealed in the Sierra de Tamaulipas. In the Altamira deep test a thin glauconitic zone separates Upper Jurassic from Lower Cretaceous, but there was perhaps no unconformity or at the most a slight one between the Jurassic and Cretaceous since Hauterevian-Valanginian fossils were found above the glauconitic layer and fossils of the Portland, or uppermost stage of the Jurassic, below it.

The depositional cycle began and ended with the shallow water littoral deposits. In the Catorce mining district in the State of San Luis Potosi, the cycle began with conglomerates which successively grade upwards into sandstones, shales, marls and limestones until the massive limestone of the Oxfordian (?) is reached. To the east of Catorce, in the country centering around Aramberri and Las Virgenes, in the Nuevo Leon-Tamaulipas border area, the basal deposits of the cycle have not been found, but extensive deposits of gypsum appear to underlie the Kimmeridge beds. The Kimmeridge throughout the Eastern Cordillera is mainly composed of bituminous and phosphatic shales. In the Portland the shales grade upward into thin flaggy-bedded limestones which pass over into the lowermost Cretaceous purer and heavier-bedded limestones. Deposition of pure limestones then continued until the close of the Niobrara. Land-derived detritus is not found again until Fox Hills time with the exception that littoral pack sands were deposited in the Pierre of the Puerto-Villar locality along the Tampico-San Luis Potosi railway line at a distance of 150 miles west of Panuco.

The Niobrara and Benton of the Panuco area, of the Sierra de Tamaulipas exposures and of the main Cordillera pass westwards into thicker deposits of pure limstone. The volcanic tuff, which makes up so large a percentage of Benton, Niobrara and Pierre of the Sierra de Tamaulipas anticline, gradually lessens in amount westwards into the Cordillera and a short distance west of the outermost Front Ranges probably entirely ceases. Therefore, the volcanic activity in the Upper Cretaceous was either in the region of the Sierra de Tamaulipas or partially farther east.

With very minor exceptions the Cretaceous deposits laid down before Fox Hills time were deposited in clear water far from the shore lines of the Cretaceous sea. Detrital material is lacking from this sequence.

The most extraordinary characeteristic of the Cretaceous section between the upper limit of the Hauterevian-Valanginian stage and the upper limit of the Fox Hills is the great scarcity in fossils other than the very abundant foraminifera. This is conspicuously different from other Paleozoic and Mesozoic pure limestone strata of North America. The Cretaceous limestones of this part of Mexico prevalently are not dark-colored and do not contain more than the average amount of pyrite, so it does not appear probable that the water was of so foul a nature that the larger organisms could not live in it. This northeastern Mexican pure foraminiferal limestone succession is comparable to the purer diatomaceous phases of the Monterey group of California, since the ordinary invertebrate fossils are conspicuously rare in both. The evidence so far indicates the limestones were deposited in intermediate depths of the ocean in waters too deep for the blue clay deposits and still shallower than the abysmal "deeps". The limestones appear to be Globigerina and other formaniferal oozes deposited in depths of water varying up to approximately 5000 feet. In such depths of water Sir John Murray found that Radiolaria are scarce because their silica is dissolved in excess of lime. It is possible that the silica of the dissolved Radiolaria may form the silicious and chert content of the limestones.

The Pierre and Lower Velasco sediments are still in the form of partly consolidated foraminiferal oozes, but the lower strata have been consolidated into ordinary limestones. They also are free from land-derived detritus and were apparently deposited in fairly deep water.

Igneous Rocks

Intrusive basalts reach the surface in the Ebano section and have been encountered there in a number of the wells. Vesicular basalt outcrops in the Tamismolon Hacienda, about 10 miles south-southwest of the town of Panuco, and basalt reaches the surface in the vicinity of Tamante Hill about 10 miles to the south of Panuco. Basaltic intrusives and extrusives are common in this part of Mexico.

Olivine-basalt was encountered at varying depths from the base of the alluvium to at least 600 feet in seven wells in the West Maguabes Hacienda of the Panuco section proper.

Other intrusive rocks known in the Panuco field are diorite and biotite-hornblend granite.

There is definite evidence that the basaltic eruptions began as early as the Upper Oligoncene or early Miocene and continued until the Pleistocene. The granite may have been intruded as early as the Upper Cretaceous since the volcanic tuff in the Upper Cretaceous is of the same composition. Diorite and syenite intrude the Upper Cretaceous sediments of the Sierras de Tamaulipas Igneous rocks ranging in composition from acid to basic are widespread in the Sierra de Tamaulipas, but the common nepheline-syenites of the mountain outcrops have not yet been found in the Panuco field.

A conglomerate largely composed of unworn and undecomposed crystals of sanidine is found in the Pithahaya Hill, 15 miles south-southwest of the town of Panuco. This conglomerate has a dip of 12 degrees to the southeast. It forms a part of a marine Tertiary section the exact age of which is unknown, but is most probably Upper Oligocene or Lower Miocene. The abundant sanidine, very little waterworn and practically undecomposed, indicates a nearby source from an igneous rock which was being eroded at the time the conglomerate was deposited.

We can, therefore, say that the igneous activity in the Panuco area began in the oldest Benton and may have continued until the Pleistocene. The volcanic ash in the Upper Cretaceous must have been altered to bentonite before or during deposition, thus being formed in the same way as palagonite.

Ore Deposits and Contact Metamorphism

A core sample from a deep test is of a limestone country rock, dark grey and dove-colored, spotted and fine-grained. This, upon being treated with dilute hydrochloric acid leaves a spongy skeleton of amorphous silica. There are some thin beds of black calcareous shale. The limestone in thin section shows foraminifera in abundance, radiolari, sponge spicules and fragments of minute molluscan shells. It is extensively cut by veinlets of calcite. There has been extensive addition of chalcopyrite and pyrite, both primary ore minerals, which occur in large well crystallized masses. Chalcopyrite also occurs in another sample in the same well.

Chalcopyrite is present in a number of the wells drilled on faults in the East Coast Oil Company Ingenio and Laguna de la Milpa leases. In one of these secondary blue-green chrysocolla encloses chalcopyrite and the mineral crysocolla is found in other wells in the faulted zones. Samples from one well contain a high concentration of somewhat coarsely crystalline magnetite. It is probable a deposit of magnetite is present, although the possibility of the bit and drill stem having for some reason become demagnetized and releasing a concentration of magnetite from the intrusive rocks must be taken into consideration. Characteristic contact metamorphic minerals are probable grossularite garnet and the magnetite just noted. In the pure Cretaceous limestones metamorphism is generally by marbleization, garnetization or silification. Some shales have been changed to graphite.

Structure

The Panuco section proper and Topila are the only parts of the Panuco

(Continued on page 46)

[2]The gypsum has served as a "plane of lubrication" over which extensive overthrusts have moved, hence the exact stratigraphy is uncertain.

HUMBLE OIL & REFINING COMPANY'S ELLIOTT-CLARK 1, DISCOVERY WELL OF BOGGY CREEK FIELD, NORTHEASTERN CHEROKEE COUNTY, TEXAS

Humble Plans Orderly Development Of Boggy Creek

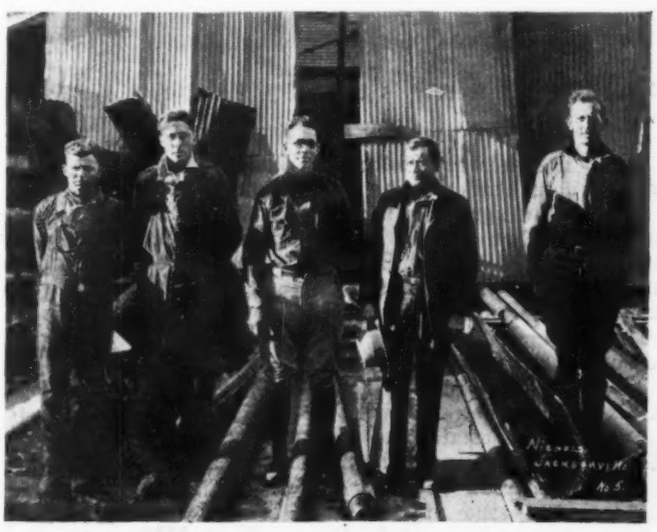
Wildcat producer spoken of as possible marker of field of Mexia proportions; production still shut-in

By WALLACE DAVIS
Staff Representative

Houston—Boggy Creek field, Cherokee County, opened for production March 20 with completion of Humble's Elliott-Clark 1 wildcat, which flowed 102 barrels 41 gravity oil in one hour on test with 600 pounds rock pressure, is scheduled to undergo a campaign of logical development. Humble's plan is to keep the oil underground pending better market conditions, but this policy will not interrupt a drilling program which is now being arranged to outline the dome and productive area.

One location, Earle and Ragsdale 2, had been definitely decided on early this week, 600 feet east and 832 feet north of the Elliott-Clark discovery well, and 416 feet from the south line and 1492 feet from the east line of the Earle and Ragsdale tract, Nathan Johnson survey.

Aside from this location, which will probably be drilled with the rig from the discovery well, Humble is moving in four rigs for drilling the dome and surrounding vicinity. It is planned to drill about four wells with each of these rigs within the year, making a total of 20 wells to outline the structure.



THE CREW WHO DRILLED IN THE HUMBLE OIL & REFINING COMPANY'S ELLIOTT NO. 1 WELL. READING, LEFT TO RIGHT, E. H. MENGE, F. L. LIVELY, H. AMAN, R. B. MARTIN, DRILLER, AND B. C. COPELIA.

From the fact that the Elliott-Clark well is producing from the Woodbine sand, and from its performance on and following completion, estimates of the field's value have been raised as high as that of Mexia or Powell.

The gasoline content of gas from the discovery well tested two gallons per thousand cubic feet March 27, when the well was opened to a quarter-inch choke and allowed to flow one hour and 44 minutes while the test was being made. During this period it made 121 barrels of oil and 725,000 cubic feet of gas, amounting to roughly 1730 barrels of crude and slightly less than 10,000,000 feet of gas daily. This flow represents an

increase over the initial of the well on the same size flow, the yield at that time having been 1325 barrels, and 102 barrels an hour, or 2448 barrels daily, on a half-inch nipple. During the hour and 44 minute period the well had a flowing pressure of 600 pounds.

No plans for a pipe line for handling Boggy Creek crude have yet been announced by the Humble. Two 1000-barrel steel tanks have been completed near the well, making 4000 barrels of storage capacity now on hand.

Since there is apparently little chance for competitive drilling in the immediate vicinity, due to Humble's solid block of more than 14,000 acres, and since Humble's policy will not be that of drilling for ready oil, the greatest outstanding feature of importance resulting in the near future from the discovery will be the wildcat play it attracts to East Texas' interior salt dome area. A heavy wildcat program to include deep tests around all of the known interior domes is indicated by the present leasing and royalty buying campaign. The play for acreage around these domes has been comparatively wild since the Humble's discovery, and is divided fairly equally among Cherokee, Anderson, Smith and eastern Freestone Counties, where land has been leased for as high as $100 per acre, and even higher on small tracts located between large blocks already under lease. Royalty buying has kept pace with leasing during the past week, and unusually fancy prices were paid for fractions of the base on land heretofore considered unlikely for drilling. Among the leading major companies interested in blocking acreage in the vicinity of the discovery are The Texas Company and Sun. J. S. Cosden is reported planning immediate activity on land held and formerly drilled in the northern section of Anderson County, near Montalba.

Most of the trading interest around Boggy Creek dome was in royalty buying in that no acreage was for sale at points close in. Royalties jumped during the week of the strike from $100 per acre base on close-in Humble acreage to $4000. Territory five and six miles from the discovery well, outside the Humble block, was going at high prices, although at this point it held less interest than did close-in acreage around other interior domes.

The Boggy Creek field will be classed under the Jacksonville district. Humble has already established permanent offices in this town, and other companies are establishing scouting quarters there. Numerous lease and royalty concerns have opened offices in the town.

Much credit for the Boggy Creek discovery goes to M. S. Davey, who was the original discoverer of the dome, and the man who blocked a large part of the discovery acreage. He began work in this vicinity five years ago on the strength of surface evidences of a salt dome. Davey spent several years accumulating acreage in the vicinity of the present producer, and drilled several shallow tests in which he found showings of oil and gas at depths as shallow as 143 feet. He later was backed by the Humble in a series of tests, which showed up good, and still later turned his acreage over to the Humble, retaining a 24th over-riding royalty on the block.

The producing well is located on a 500-acre tract owned by H. C. Elliott, a real estate man of Jacksonville.

Humble's Southern Pine 1, located in Anderson County, about 16 miles southwest of the Boggy Creek well, was drilling early this week at 2328 feet in shale. This well had a good showing of oil at around 1700 feet, but made salt water when tested.

Magnolia Uses Centrifugal Pumps in New Stations

(Continued from page 27)

First of all, however, it might be said that the knowledge is universal that the centrifugal pump is not as efficient as the displacement type. Due, however, to the greatly lowered initial cost and the fixed charges in pipe line station construction and operation, the centrifugal station offers interesting features.

Advantages of Centrifugal Pumps.

In his paper read before the Mid-Continent section of the American Society of Mechanical Engineers, at Tulsa, February 25, W. R. Layne, of the Byron-Jackson Pump Company, pointed out that one of the inherent advantages of the centrifugal pump is the utilization of the pressure of oil arriving from the preceding station, i.e., the residual pressure of the station. This pressure is automatically used without regulation of the pumps. At Westbury, the station is able to use the pressure of the oil coming from Hull and thereby effect a saving in horsepower.

The necessity for storage at a centrifugal station is eliminated, which cuts down the initial cost of the station installation.

With the station at Hull, a saving in horsepower has been effected by eliminating the necessity of by-passing. This is made possible because a valve can be closed against the centrifugal pump without destructive results. Instead of by-passing the oil brought through the pump by excess pressures developed as the pump operates, back through the line or into storage again, the gate valve on the discharge line is closed sufficiently to hold back the excess oil. This is done without any damage to either the pump or the valve, and means a substantial saving.

Quoting again from Mr. Layne's paper, he says, "A point always to be considered in pipe line service, regardless of drive, in connection with centrifugal pumps, is the greatly lowered friction loss, due to the smooth, uniform flow."

This feature is especially noticeable at the Hull and Westbury stations. Smoothness in operation with the resulting saving in wear and tear on other equipment is listed as among the advantages of the two installations.

Salvage value of a pump station is always worth considering. Centrifugal installations, according to their users, have practically 100 per cent salvage utility. The pumps are light and can be moved readily and quickly, if the occasion demands. Building investment is slight and the entire lay-out can be transported to new locations with ease. For example, a single truck could haul all the equipment in either of the stations mentioned, and two trucks could move equipment and buildings.

When all the details involved in getting the Hull station into operation have been smoothed out, Magnolia plans to have the gauger look at the station when he makes his hourly rounds, thereby dispensing with a full-time engineer. And when operating conditions become more regular, the Westbury station will probably be operated entirely automatically.

The Westbury station began operating early in December and the Hull installation pumped its first oil on January 18.

Probable total cost of the two installations was not over $50,000.

Fourth Shallow Oil Area Found in Cooke County

Wichita Falls, Texas.—The fourth shallow oil and gas discovery in Cooke County through wildcat activity conducted since the first of the year, was made last week when the joint operation of the Fain-McGaha Oil Corporation and the Murchison Oil Company, on the Otto farm, yielded a 40 degree gravity oil producer from sand pay at 963-67 feet, estimated as a 25-barrel pumper. This well is located in the W. C. Davis survey, A-308, and about four miles northeast of the Muenster pool, which was discovered in January. The Otto test drilled through the sand into shale at 967-70 feet. It is the shallowest and highest gravity producer in the county. The owners are reported to be planning to offset the discovery well on three sides.

C. C. Lanier and the Homer Chapman Oil Company's Montgomery wildcat oil producer, which has been in process of completion since the first week in March, succeeded in plugging back from water at a total depth of 1326 feet. This well flowed 125 barrels oil and five barrels of water during the first 12 hours after being reconditioned, and flowed 190 barrels oil and 10 barrels of water during the next 24 hours, indicating a good producer. It is located in the T. J. Hutchinson survey, about two miles south of the Hooser field. Magnolia's four million cubic foot gas well at 1179-99 feet on the Alice Johnson farm, furnished the third of the new discoveries made this year in Cooke County.

PERSONAL MENTION-MEN YOU KNOW

John T. Crotty, president of the Republic Supply Company, is making an extended trip through West Texas, with R. E. Cole, district manager.

Tom O'Neil, general auditor of Republic Supply Company, has just returned from an extended trip through the Panhandle fields.

Harry G. Nye of the Nye Tool & Machine Works, Chicago, has recently returned from a trip to Europe, and last week made a trip to the Gulf Coast and Mid-Continent fields.

E. B. Smith, chief engineer of Marion Machine Foundry and Supply Company, and C. D. Erlewine, district manager from Dallas, were in Houston last week, visiting L. C. Wynne, Houston manager for the company.

K. O. (Bill) Bundy is now in the land department of the Tulsa office of the Prairie Oil & Gas Company. Bundy has been in New Mexico for several years for the Prairie.

Dr. K. S. Ritchie, formerly of Standford University and San Francisco, has recently joined the Marland Oil Company as chemical engineer, and will have headquarters in Ponca City.

L. H. Gorton, formerly in charge of construction of the Roxana Petroleum Corporation in Oklahoma, now is associated with Whealton-Townsend Company, Inc., in their Tulsa office. John L. Robinson, formerly with the Skelly Oil Company, also has become associated with Whealton - Townsend who are distributors in the Mid-Continent and California fields for the products of the Chicago Pneumatic Tool Company.

W. P. Walker, vice president of the Mid-Continent Konset Company, has returned to the general office in Tulsa after a six weeks business trip to California and the Texas and Arizona fields in the interest of company business.

W. W. Trout of the Lufkin Foundry and Machine Company has decided to take unto himself a wife, despite the fact that the price of crude is down. His fiancee is Miss Sophia Mosley of Duncan, Oklahoma.

R. H. Woods, formerly with Humble Oil & Refining Company at Laredo, Texas, has joined the scouting force of Vacuum Oil Company, and will be located at San Angelo, in charge of the West Texas territory. He follows Harry Sample in Vacuum's West Texas office, Sample having been transferred recently to the company's Eastland headquarters to succeed Arch A. Murrell, who was moved to the New York office of Vacuum.

Mr. J. M. Shear, vice-president of the Union Rubber Asbestos Company of Trenton, New Jersey, visited Houston last week.

S. M. WILLIAMS, JR.

OF TULSA, PRESIDENT OF THE MIDWEST GAS COMPANY, AN ORGANIZATION FORMED RECENTLY AS THE RESULT OF A MERGER OF SEVERAL GAS COMPANIES IN OKLAHOMA AND KANSAS.

Tracey T. Word, president of the T. T. Word Supply Company, Houston headquarters, is in Los Angeles on business, and expects to return within the next week.

Mr. Donald (Don) W. Mackey, general purchasing agent for the Bradford Supply Company of Bradford, Pennsylvania, was a visitor in Houston last week.

Nobuo Iitaka, of the Nippon Oil Company, Tokyo, Japan is in Los Angeles in the interest of the company. Mr. Iitaka will visit in the East before returning to Japan.

Mr. E. A. Douglas, representing Horace G. Preston Company of Pittsburgh, Pennsylvania, was a visitor in Houston last week. Mr. Douglas is Manager of the company. This company manufactures Wear Well Leather Packing.

R. B. Harvey, salesmanager of the New-Way Motor Company, Lansing, Michigan, was in Houston last week lining up representation for the Gulf Coast and Texas territory. They manufacture gas, gasoline and kerosene engines for pump jacks and lighting units.

Marion Heneshaw, veteran operator of Butler, Pennsylvania, died at his home March 28 after a short illness. He was 83 years old.

Marvin Lee and J. L. Garlough, petroleum geologists, Wichita, Kansas, have recently moved their offices from 12 Brown Building to 402 Masonic Temple Building for the purpose of securing additional space and for the convenience of some of their clients.

H. P. Bostaph, sales manager of the Texas Steel Company, Fort Worth, was a recent visitor in Houston, where he culminated arrangements with the firm of Lawrence-Anderson Sales Company of that city to represent his company in the sale of the Texas Electric Steel Sucker Rod in the Gulf Coast territory.

Dallas, Texas.—The twelfth annual meeting of superintendents and leasers of the Magnolia Petroleum Company, Magnolia Pipe Line Company and the Magnolia Gas Company will be held in the Magnolia Building auditorium April 7 and 8. This meeting will be attended by employes located in Texas, Oklahoma, Louisiana, Arkansas and Kansas, and a special program of entertainment has been arranged for the wives of the visitors. The adjournment of the meeting in Dallas will be followed by a dinner at the Adolphus Hotel, then about 150 officials and superintendents will travel via a special train to Beaumont for an inspection of the company's refineries and export terminals.

Shreveport Area Shows Result of Price Cuts

Curtailment is not so pronounced as indicated by early forecasts of market break effect; few new wells started

By Special Representative

Shreveport, La.—The Shreveport territory is at last beginning to feel the effect of the recent reductions in crude oil prices, although the slowing up of operations is not so pronounced as it was predicted it would be at the time of the first reductions. Wildcat drillings which had been started prior to the breaking of the crude market are being carried to completion. Only 22 permits were issued for wells last week in Louisiana while Arkansas also reported a slump in permits.

The Carterville area in Bossier Parish and the Pleasant Hill section of Sabine Parish continued to hold the center of interest. Everyone is awaiting the outcome of Woodley and Collin's L. & A. 2, completed as a small gasser with a spray of oil several days ago in territory heretofore considered productive of gas only. The well has been flowing by heads at the rate of about 50 or 75 barrels per day. A string of tubing and a packer increased the volume of fluid but did not seem to help the oil production. The well is now flowing approximately 200 barrels of fluid per day, about 75 barrels of which is oil. Several other wells are drilling in this section, some of which are now setting casing on the top of the cap rock under which the Woodley and Collins well found the sand, and the following week should witness some interesting tests. Louisiana Oil Refining Corporation has set and cemented 6⅝-inch casing in its Blanton test in 23-23-12, one mile southwest of the Woodley and Collins well. Plug will probably be drilled in this well some time next week. The Magnolia Petroleum Company's well in 15-23-12, one and one-quarter miles west of the producer, is also nearing the sand and should be tested next week.

Announcement has been made that W. R. Ramsey will drill a number of tests in the Carterville section. He has secured permits and made locations for five wells to be drilled immediately in sections 16, 22, 27, and 28, of Township 23, Range 12.

The majority of companies are awaiting the outcome of the Arkansas Fuel Oil Company's second well in the Sabine Parish district before further development. This well was scheduled to test early this week, but it was postponed. Should it be completed as a good well, operators have everything in readiness to proceed with a more or less active drilling campaign. The Magnolia Petroleum Company is proceeding with work on Hall 1, 33-10-12, and the Ohio Oil Company is drilling at 2,665 feet in Cook 1, 34-10-12, both of which are located in adjoining sections to the discovery well. The Arkansas Fuel Oil Company, has drilled three wells to the top of the sand since the completion of the discovery well.

The Avalon Oil Company and the Clark and Melat Interests uncovered an important oil producing sand in their Payne 1, in 12-11-16, De Soto Parish, last week, when it was drilled deeper with cable tools in an effort to increase production. The well blew in from a depth of 2,559 feet with such force that the tools were blown from the hole, and started flowing at the rate of about 500 barrels of oil and salt water per day, of which amount approximately 200 barrels is oil, testing around 40 degrees Beaume. The well is not exactly in wildcat territory for the reason that the Clark and Melat Interests have several small wells which have been producing from a slightly shallower depth in this vicinity, near Logansport, for the past several years. The new sand, however, is altogether virgin in this locality, and its discovery is expected to be responsible for some increased drilling activity.

The E. G. Paulette Holmes 1, in 17-9-1e, La Salle Parish, located near Georgetown, which was completed recently flowing at the rate of between 500 and 600 barrels of oil per day, is now flowing around 400 barrels per day, nearly three weeks after its completion. It is reasonable to suspect that market conditions are the factors which are responsible for keeping down additional drilling in this section, since it offers about the same prospects for production as did the Tullos field in 1925.

The completion of the Marine Oil Company's Thompson B-1 last week, located in Section 10-18-13, of the Urbana-Lawson gas area, Union County, definitely settles the question of a gas field in the new sector, but still leaves the companies interested in this field in doubt as to the possibility of oil production. The Marine well was brought in on March 24 from a depth of 2,707 feet, making 100,0000,000 cubic feet of dry gas, from 21 feet of sand. This well is located one-half mile west of the same company's Winn well, in the same section, also recently completed as a large gasser. The officials of this company have expressed the thought that, if the well were allowed to blow open, it is probable that it would show oil in a short time. This company is drilling at 2,200 feet in Thompson A-2, in the northeast corner of the same section, and should be complete at an early date. J. W. Olvey's Simmons 1, 15-18-13, is coring around the 2,500 foot level. In the Lawson end of the Urbana-Lawson area, Garrett and Modisette Drilling Company is reported to be on the verge of abandoning its Union Saw Mill 1, 7-18-13, at 3000 feet, after failing to find the producing sand. Superior Oil Company's Jerry 1, 32-17-13, is also reported a failure at around 2,900 feet.

In the Smackover field, several old wells are being deepened to the Fourth sand in an effort to secure increased production following several recent successful completions at this depth. During the past week, however, nothing of interest was reported. Louisiana Oil Refining Corporation is drilling plug in Murphy B-3, in 9-16-15, at 2,734 feet. Ohio Oil Company has set and cemented 4½-inch casing in Murphy 4, 9-16-15, at 2,692 feet. Olvey et al's simmons 1, 15-18-13, is waiting for cement to set around the 8¼-inch casing, set at a depth of 2,646 feet.

The Empire Gas & Fuel Company brought in its Qualls 1 in 15-10-24, Johnson County, as a 6,000,000 cubic feet gasser last week, from 2,859 feet. This is the third successful completion for this section of the state within recent months. However, it is said that the well will be mudded up and drilled to a greater depth in an effort to secure an increased output of gas. This well defines a triangle of proven territory of considerable extent since the three wells already in are over a mile apart. The leases on this area are, for the most part, owned by three concerns, including the Empire Gas & Fuel Company and the Natural Gas & Fuel Corporation. These two companies are very active in this section, the Empire making arrangements for a wildcat test in Section 19-10-27, Franklin County; and Natural Gas & Fuel Company making plans for an active drilling campaign near London. At the same time, it is finishing surveys for laying 75 miles of 10-inch gas line to Conway, Arkansas.

Seminole Production Goes to New High

Reaches 333,271 barrels for one day following two large completions, then drops back to 326,530 barrels daily

By ROYE MUNSELL
Staff Representative

Tulsa.—With the addition of two large flush producers in the Bowlegs 8-6 district over the week end, Seminole passed its former peak of 326,000 barrels and went to 333,271 barrels for a new high peak, 24-hour gauge ending 7 a. m. March 28. During the next 24-hours, however, the output fell off to 326,530 barrels.

The flood of oil during Saturday was largely due to the bringing in of two new large producers in the Bowlegs district, as has already been pointed out. One well, the Indian Territory Illuminating Oil Company's Livingston 2, in the southwest of the southeast of the northwest of 15-8-6, started off at the rate of 260 barrels an hour when drilled 13 feet into the Wilcox pay. The top of the pay was picked up at 4,108 feet at this location.

Livingston 2 is a west offset to the same company's Livingston 1 which is the original Wilcox producer in the Bowlegs district. The other new producer at Bowlegs is the Carter Oil Company's Bowlegs 1 in the northwest corner of the southeast of the southwest of section 15-8-6. At five feet into the pay the well started off at 215 barrels an hour.

Bowlegs Active

The Bowlegs district is still very much in its initial stage of development. There are 125 wells drilling there and 12 new locations. Of the drilling wells, 50 are less than 2,000 feet; 34 are between 2,000 and 3,099 feet; 11 are between 3,100 feet and 3,700 feet and 11 are below 3,700 feet. The big pay is to be found around 4,100 feet and a goodly number of the 11 wells reported drilling below 3,700 feet are near the pay.

An interesting development during the past week in the Bowlegs district was the finding of production as far south as section 22 in the Sinclair Oil & Gas Company's test there. At that location the Wilcox sand was found at 4,287 feet. At one foot in the well swabbed 25 barrels. While this is not phenominal production, the test is interesting in that it indicates a large territory of possible production. This well may be developed into a larger producer.

A new development during the past week in the Earlsboro district of not a little importance is the Mid-Continent Petroleum Corporation's McCumber 1, southeast corner of the northeast of the southwest of 9-9-5, which extends Wilcox sand production northwest of Earlsboro. The well is reported to have had a hole full of water in the shallower Earlsboro sand at 3685 to 3700 feet. The top of the Wilcox was picked up at 4358 feet and when drilled in about a foot the well started off for 100 barrels and hour.

This well is about a quarter of a mile north of the Gypsy failure and less than a half mile west and north of the Phillips' Lamar 1, which found water in the Wilcox.

This seemingly haphazard fashion in which producing wells and dry holes are showing up in the Seminole district would appear to indicate that that area is over a shattered structure.

In this connection it is interesting to note the performance of the new Gypsy-Amerada-Westland Earl 3, in the southeast corner of the northwest of 16-9-5. At 4280 to 4285 feet in the Wilcox pay this well came in for 140 barrels initial. It is one-quarter mile southwest of production and beyond a line of dry holes to the east. Despite these dry holes, production has been extended, apparently.

Two Miles East

Magnolia Petroleum Company is apparently bringing in a Wilcox producer two miles northeast of the Earlsboro field in the northeast quarter of the southeast of 11-9-5. At two feet in sand picked up at 4278 feet the well is reported slopping over. This test is about a quarter of a

Seminole Production by Companies

Company, Lease and Location—	Production
Amerada Petroleum Corp., Rasco, 15-8-6	4,020
Anderson, 15-9-5	10,650
Fixico, 23-9-6	5,170
Rentie, 23-9-6	3,850
Amerada-Gardner	2,660
Atlantic Oil Production Co., Cudjo, 35-9-6	5,600
Barnsdall Corporation, Carter, 24-9-6	10,750
Jones, 34-9-6	10,225
Carter Oil Co., Kiker, 2-9-6	75
Frazier, 3-9-6	3,850
Davis, 4-9-6	5,500
Knapp, 13-9-6	3,550
J. F. Killings, 14-9-6	4,230
F. Carter, 23-9-6	2,100
Grisco, 23-9-6	6,400
M. Killings, 23-9-6	4,310
M. Carter, 24-9-6	165
Lukes, 27-9-6	6,020
Gilliland, 27-9-6	300
Strothers, 34-9-6	3,450
Cudjo, 35-9-6	6,695
Walker, 15-8-6	6,765
Empire Gas & Fuel Co., Lacey, 14-8-6	6,300
Wilson, 34-9-6	5,230
Gypsy Oil Co., Cudjo, 4-9-6	1,495
Carter, 24-9-6	3,890
Harjo, 25-9-6	1,000
Fixico, 25-9-6	5,090
Butler, 35-9-6	2,200
Walker, 15-8-6	2,380
Gypsy-Amerada-Westland, State land, 16-9-5	17,200
Other	3,115
Independent Oil & Gas Co., P. Fixico, 23-9-6	1,600
Independent-Garland, T. Fixico, 26-9-6	1,950
Independent-Inter-Ocean, L. Jones, 26-9-6	1,765
Independent-Atlantic, Cudjo, 35-9-6	285

Company, Lease and Location—	Production
Indian Terr. Illuminating Oil Co., Gooden, 23-9-6	1,060
Harjo, 23-9-6	1,530
James, 24-9-6	1,850
Reed, 24-9-6	45
Bowlegs, 26-9-6	5,050
Davis, 13-8-6	2,185
Livingston, 15-8-6	5,186
Mid-Kansas Oil & Gas Co., Wilkins, 25-9-6	1,160
Kingwood-Roxana, Harjo, 22-9-6	3,700
Mid-Continent Pet. Corp., Rentie, 14-9-6	4,160
Tayocke, 24-9-6	750
Grayson, 34-10-6	7,700
McCullough-Philmack, Butler, 35-9-6	1,950
Prairie Oil & Gas Co., Carter, 10-9-5	60
Spencer, 13-9-6	30
Strothers, 27-9-6	13,030
Kinkade, 33-10-6	7,970
Pure Oil Co., Strothers, 26-9-6	26,590
Roxana Pet. Corp., Harber, 22-9-6	595
Lasley, 22-9-6	4,250
Sinclair Oil & Gas Co., Polly, 3-9-6	1,025
Carter, 13-9-6	50
Fixico, 23-9-6	2,320
Cudjo "A", 35-9-6	6,400
Cudjo "B", 35-9-6	6,890
Superior Oil Corp., Cudjo, 35-9-6	6,090
Tom Slick, Cudjo, 35-9-6	4,898
Franks, 35-9-6	9,550
Gilbert, 35-9-6	925
The Texas Co., Butler, 14-9-6	490
Tidal-Osage, Harjo, 23-9-6	605
Carter, 24-9-6	1,165
Tayoche, 25-9-6	3,850
Fixico, 25-9-6	8,890
Turman Oil Co., Grisso, 35-9-6	2,475
Jones, 34-9-6	570
Twin State Oil Co., Cudjo, 4-9-6	260

mile northeast of the Wilcox sand failure of Barnsdall in section 14.

The geologist with one of the operating companies in the Seminole area who said, "Who knows," when asked what Earlsboro is likely to do, was apparently just about right, other predictions one way or the other, notwithstanding.

East of Earlsboro, and about two and quarter miles southeast of the new Magnolia well, the Prairie Oil & Gas Company have a producer in virgin territory with its Harjo 1 in the southwest of the southwest of the northeast of 24-9-5. At this location the Wilcox sand was topped at 4230 feet. At a few feet in a good show for a sizeable production was had. The well has not been completed, however, and it reported that the operators have shut it down for an indefinite period, if competing operators nearby do not force their hand. The reason is the crude situation.

A new shallow sand pool in the district has been opened by the Gypsy Oil Company with its Seminole 1 in the southwest corner of 15-8-6. From sand picked up at 3595 feet, the well was good for 100 barrels initial.

The Gypsy Oil Company's Johnson 1 in 15-9-6, between Seminole City proper and Searight, is a failure in the Wilcox with a hole full of water. This adds another very good reason for believing that there will be no pay connection between the Seminole City pool proper and the Searight district.

Fry Field Moves South With 2600 Barrel Well

Cisco, Texas.—Flush production in the Fry field, Brown County, has taken a fresh spurt to the south with the completion of the J. K. Hughes Development Company's J. N. Shore 3 flowing 110 barrels of 43-44 gravity oil per hour from regular pay sand at 1291-1304 feet. This prolific well is located in the J. C. Ryan survey, section 635, and is the first of a trio of tests started by the company following the completion of a 390-barrel producer on the west side of the lease by Forsythe and others, at 1325 feet. This new development will have a stimulating effect on drilling nearby acreage.

The McAllister, or Thomas and Reynolds field, Eastland County, added its second producer late last week when the Amerada Petroleum Corporation's C. V. Ables 1, a northeast offset to the discovery well, flowed 90 barrels by heads during the first six hours from lime pay at 3012-25 feet. The new well is located in the southwest corner of the west half of the northwest quarter of section 13, block 3, H. and T. C. survey, and will be carried deeper. Three miles southwest of this new producing area, Independent Oil and Gas Company's L. H. Snyder 1 gauged 250 barrels initial after shot 200 quarts in lime pay at 2869-2976 feet. The latter producer is in the northwest quarter of section 46, Lavaca County School Lands.

Townlot Drilling Scheduled to Start at Seal Beach April 18

By WM. V. GROSS
Staff Representative

Los Angeles.—After April 18 the Seal Beach area is apt to become more of an over-production menace than now. That is the date at which the city itself will be thrown open to drilling. Developments between now and then will have to be unusually gloomy to cast a damper on the operators' desire to obtain more oil, regardless of the existing opinion of geologists in general that the city proper property should not be regarded as offering tempting possibilities.

New Completions at Seal Beach

During the week ending March 26, two new producers were added to the string at Seal Beach. The Associated Oil Company's Bryant 16 had an estimated initial of 1000 barrels per day, based on 304 barrels of oil produced by the well in six hours. Bryant 6, which was drilled to 4420 feet, showed a casing pressure of 453 pounds and a tubing pressure of 160 pounds. Eight-and-five-eighths-inch casing was set at 4395 feet.

Marland Oil Company of California added another producer to the list with its Bixby 10, which made better than 1300 barrels of 24.6 oil from 4330 feet. Bixby 10 has a casing pressure of 730 pounds and a tubing pressure of 330 pounds. It ran in the 8¼-inch casing at 4324 feet.

Perhaps the two wells in the field creating the most general interest this week are Paul Getty's Cleaver 1 and the Pan American Petroleum Company's Naples 3. Both are slated as completions to be expected during the next week. Each will have an important bearing on future development of the town-lot area. Getty's Cleaver 1 has a total depth of 4686 feet and has stopped to run 8¼-inch casing on the strength of an oil sand topped at about 4684 feet. The Pan has the casing cemented at 4698 feet with the top of the oil sand logged at about 4702 feet.

Production Off

Production in the Seal Beach area, embracing Alamitos Heights and Naples, dropped to 26,200 barrels per day during the week ending March 26 despite the 2300 barrels of added initial. This condition is due largely to the fact that a number of wells have been taken off production for reconditioning. On its Bixby lease, for example, the Marland has taken four wells off production. The Standard has three wells off production. In some of the cases the wells have been killed because production from the upper sand was unsatisfactory and the wells are being deepened to the more prolific horizon. In others, water trouble has made recementing necessary. The slump in production is taken generally as only temporary and it is expected that within three weeks Seal Beach will have passed its former high mark of 32,000 barrels per day.

A resume of the field March 26 showed 62 drilling wells, 58 rigs and 25 locations. The latter include staked locations and all other operations which have not yet finished rigging up.

Activities of the individual operator in Seal Beach are reflected in the following tabulation:

Operator—	Dr. Wells	Rigs	Locations	Producers	Total	Prod.
Ahlburg Gasoline Company	..	..	1	..	1	....
Associated	4	3	2	5	14	3,490
Bankline Oil Company	1	..	1	..	2	....
California-Eastern Oil Company	..	4	1	..	5	....
California Petroleum Company	7	4	..	..	11	....
Craburn Oil Company	1	1	..	..	2	....
Coastal Oil Company	..	1	..	..	1	....
Dill & Comstock	..	1	1	..	2	....
Dominguez Extension Oil Co.	..	1	..	..	1	....
General Petroleum Corporation	6	2	1	..	9	....
Geo. F. Getty	5	1	5	..	11	....
Paul Getty	5	1	1	..	7	....
Hart et al	1	..	..	..	1	....
Hughes & Richmond	..	1	..	..	1	....
Italo-American Oil Company	..	2	..	..	2	....
Al Johnson	..	1	..	..	1	....
Keck Syndicate	..	1	..	..	1	....
Marland Oil Company *	4	13	5	9	31	11,073
McCaslin, W. E.	..	1	..	..	1	....
McCoy, Deeds & Cathers	1	..	..	..	1	....
E. J. Miley	2	..	..	..	2	....
Pan-American	12	6	4	1	23	2,440
Rainbow Petroleum Company	1	1	..	..	2	....
Richfield Oil Company	2	1	..	..	3	....
Fred Roberts	..	..	1	..	1	....
Robertson, J. T.	..	1	..	..	1	....
Standard Oil Company	..	3	..	9	12	9,197
South Basin Oil Company	1	..	..	..	1	....
Superior Oil Company	3	2	1	..	6	....
Union Petroleum & Drilling Co.	..	..	1	..	1	....
Universial Cons. Oil Company	2	2	..	..	4	....
Fred Walker	..	2	..	..	2	....
Waklin & Peacock	..	1	..	..	1	....
J. G. Wheeler	..	1	..	..	1	....
Webb Syndicate	..	1	..	..	1	....
H. L. Whiston	..	..	1	..	1	....
White Eagle Petroleum Co.	..	2	..	..	2	....
Totals	58	61	26	24	169	26,200

*4 wells off production Marland.

Gulf Uncovers Big Flush Flow In Winkler County

New area promises to rival Church & Fields field which also gets a good one this week; operating agreement pending

By H. H. KING
Staff Representative

San Angelo, Texas.—Big flush production was uncovered in a new section of West Texas last week when the second oil well drilled in Winkler County gauged 180 barrels of 29 degrees gravity oil per hour on open flow from sandy-lime pay at 2824-42 feet. Gulf Production Company's T. G. Hendricks 1, a southeast offset to the discovery well, made this unexpected flow Friday morning after making 2002 barrels during the previous 12 hour period. This field promises to rival the Church & Fields area, Crane County, where Humble and Simms-Atlantic each scored new completions making 300 barrels 33 degrees gravity oil per hour during the past week.

The Hendricks field in Winkler County is the most isolated of all the important oil producing areas in West Texas, except for the Yates shallow field in Pecos County, from a railroad connection, and is the furtherest removed from other production and pipe line facilities. The field is about 52 miles northwest of the Church & Fields area. Winkler County is without a railroad, and only recently gave birth to a sizeable town or two. Kermit, which is the designated county seat, and Wink, located near the field, are building up rapidly, and hotel facilities will be available shortly.

Building Line

The Southern Pipe Line Company is building a combination six and eight-inch oil line from the Winkler County field to the company's main tank farm and tank car rack at Wickett, Ward County, a distance of 17 miles, and will make deliveries to the Pan-American refinery at Destrehan, La. The Southern Crude Oil Purchasing Company acquired the discovery well of the field from R. A. Westbrook et al last November, and is the largest lease owner of close in acreage. The Southern is a subsidiary of Standard of Indiana, and has made a big investment in camps, warehouses, roads and a pipe line in preparation for "big time" production, which now seems certain for the field.

Gulf's Hendricks well was pinched to 2580 barrels during the 24 hours ending Saturday morning, and was held at 2650 barrels for the next two days, but had to be throttled down to 15 barrels per hour Monday morning on account of Southern Pipe Line Company having only one 55,000 barrel tank completed. This tank has been partly filled with the output of the discovery well, which is flowing about 390 barrels daily.

Fault Indicated

The log of the Gulf's Hendricks well runs considerably higher than the discovery well, although only 660 feet apart, and a faulted condition is believed to be responsible for the unconformity of the key formations logged in the two wells. The original producer logged the top of the salt at 1930 feet and the big lime at 2604 feet, with a surface elevation of 2806 feet, and the main bottom pay was logged at 2965-3046 feet. Gulf's well hit the salt at 1665 feet and the lime at 2538 feet. A comparison of the two logs shows that Gulf got the salt 260 feet higher, and the lime 61 feet higher, while the oil pay in the Gulf well is 136 feet higher. The discovery well has penetrated the pay level 81 feet after deepening at regular intervals with occasional production increases, without striking water. Gulf has taken only 18 feet of pay formation.

Four steel derricks are being erected on Gulf's 160-acre Hendricks lease since the completion of the first well, with an east and south offset to the producer, and a rig in the southeast and southwest corners. This will require offsets from Pure, Independent, Atlantic, Southern Crude and Humble, making 10 new locations for the field. However, most of the above companies have agreed to hold back this development, including Gulf, until market conditions improve, and a meeting of the operators is scheduled to take place in Houston later this week to discuss the situation.

Winkler County crude does not carry as much sulphur as that found in Crane, Upton and Pecos Counties' flush fields, and excellent water is available in abundant quantities from 50 to 180 feet below the surface, thereby making the field more attractive to operate in. Rotary rigs have been found successful for drilling to the big lime by Southern Crude, which has three tests drilled or drilling with rotary to the lime. The use of the rotary is reported to afford a saving of about $8000 per well, and faster drilling time is another point in its favor. However, the nature of the pay formation makes it imperative that cable tools be used in completing the well.

Church-Fields

The latest big producer for the Church & Fields area was scored Monday when Humble's University 2, located in the southwest corner of section 38 and offsetting three of the largest wells in the field, flowed 330 barrels per hour from regular sandy-lime pay at 2880-2910 feet, with a surface elevation of 2570 feet. Humble's well gauged 5050 barrels during the first 24 hours, and the production is being handled by Humble Pipe Line Company, with a large amount going to steel storage. The joint operations of Simms Oil Company and the Atlantic Oil Producing Company yielded a 300 barrel per hour well on University 3, lease "F," in lime pay at 2871-2924 feet, with a surface elevation of 2567 feet. This well gauged 4500 barrels during the first 15 hours, and had to be pinched to considerably less than half the potential output, owing to Humble Pipe Line Company being unable to handle the oil. A half dozen new completions for the Church & Fields area are due in within the next 10 days, and most of these are in the known flush area. Humble will have a new eight-inch line built into this field shortly to supplement the original six-inch carrier, while the Southern Pipe Line Company and Gulf are operating their lines. Southern is taking Tidal Oil Company's production on contract, and also taking part of the Eastland Oil Company et al production.

Humble & Kirby Petroleum Company's wildcat test on the Rheinstrom land, Pecos County, topped the big lime at 1955 feet early this week, with a surface elevation of 2351 feet. This test logged the top of the salt at 830 feet. The California Company's Cordova Union 1 logged salt at 834-50 feet, with a surface elevation of 2615 feet, and is drilling ahead at 1250 feet. The Crosby Drilling Company's Yates 1 cased off a hole full of water at 930-40 feet with 8¼-inch pipe, and is drilling anhydrite at 1130 feet. Carl Cromwell & Kimberlin's Blackman-Scharff 1 has been shut down at 1400 feet.

Geology of the Panuco District

(Continued from page 38)

field of which the structure has been studied by the writer. He will not attempt to consider structural details elsewhere.

The top of the Washita is the only safe structural datum plane. Fully half the wells in the Panuco and Topila sections were drilled before accurate records were kept and it is possible to obtain accurate structural and stratigraphic data of very few of the older wells. The structure is so extraordinarily irregular that it is unsafe to interpolate contours between wells with accurate structural data in many instances even when such wells are relatively close together. Many wells were not drilled so deep as the top of the Washita and all such afford us only uncertain facts of structure.

The larger structural features of the Panuco section proper comprise the main Panuco anticline or "high" which is flanked on the east by the Tampuche syncline and on the west by the Tanchiquin syncline. The structural relief is fairly great, amounting to more than 850 feet in a distance of 3¾ miles between the highest known point on the Panuco anticline and the lowest known point in the Tampuche syncline and to 700 feet between the highest known point on the Panuco anticline and a point 3½ miles to the west in the Tanchiquin syncline. It is to be noted that all the present productive sections are merely on the higher part of a much greater anticline. The Tampuche syncline bifurcates in its northern part, the west branch paralleling in strike the Panuco anticline and a northeastern branch forming the northwest side of the Topila field.

The northern half of the main Panuco anticline begins a mile northwest of the center of the town of Panuco, thence extends with an axial direction of north 15 degrees west for a distance of three miles north-northwest into Southern Calcalilao. There is a pronounced terrace about one mile in width lying just east of the axis and extending parallel to the axis for the northern two miles. The terrace is bounded to the east by an abrupt, probably faulted downplunge of 650 feet in one mile, striking nearly north-south, which is perhaps the greatest amount of dip in the entire section. This dip extends to the trough of the western bifurcation of the Tampuche syncline. There are two local domes at either end of the north part of the anticline which are possibly formed by igneous intrusion; the intrusions found in San Manuel underlie the summit of the southern dome. The southern dome is bounded on the south-southeast by the San Manuel fault, traced for three-fourths of a mile, with a direction approximately north 60 degrees east.

The southern part of the Panuco anticline is more complicated. A low saddle separates it from the northern part. It is situated to the west of the northern part. The axis of the southern part first strikes for 1¼ miles in a north 30 degrees west direction and in the middle of the Ingenio lease abruptly turns at right angles to the west-southwest for the distance of a mile. The complications are caused by 10 or more sub-parallel faults striking from nearly due northeast to north 65 degrees east. The faults have varying amounts of vertical displacements ranging to a known maximum of 160 feet; the most productive belt less than half a mile wide in Zurita, Peralta, Petrero del Zacate and southeastern Ingenio is a faulted zone apparently having at least six sub-parallel faults. Nearly all the wells in this belt were drilled before accurate records were kept and the structural details will probably never be known. The San Manuel fault zone crosses the center of the southern part of the Panuco anticline and dies out on its western flank. It is now almost certain that one or more faults, in addition to the 10 already noted, bound the southern part of the anticline on the south-southeast and that the north-northwest boundary is either a fault or a steep down-plunge. The dip on the west flank is much more gentle than on the east.

The evidence for faulting is abundant and conclusive. Open cavities have been found in drilling and fragments blown out of wells have open spaces very often lined with calcite crystals. Studies of drilling samples show displacements. Closely contiguous bore holes reach the top of the Washita at widely variant depths. The occurrence of the primary ore mineral, chalcopyrite, in wells along displacements indicates veins on faults. Large producing wells are situated in faulted or creviced zones since wells drilled in the solid, unfractured limestone do not get commercially profitable production. The occurrence of the oil at no definite stratigraphic horizon, but from the top to the base of the entire Cretaceous also shows the oil is accumulated in open spaces, either fractures or crevices in the elsewhere non-productive strata. It is very much the exception for closely offset wells to derive their production from exactly the same stratigraphic level.

The open spaces in which the oil, water or gas have accumulated in the Panuco field are caused by: (1) faulting, (2) joining-fracture without appreciable displacement, (3) solution. Fractures caused by settling as a consequence of solution cannot be distinguished from faults and joints.

Some of the faults reach the surface of the bedrock. A number of such in the Tamesi valley are indicated by lines of seepages. Many of the faults, however, do not reach the surface of the bedrock. The upper formations, the Pierre and Velasco, are incompetent and yield by partial "flow"—crumpling or acute, local folding—to movements causing displacements of the underlying more brittle rocks. It seems most probable that fractures are more prevalent in the lower parts of the limestone, since any well, if carried deep enough, will finally encounter either oil or salt water, but not in any definite stratigraphic horizon. A number of wells have been drilled to depths 500 or more feet below the top of the Washita without encountering either salt water or oil in profitable amount.

Fractures in the Panuco field have at least the following possible causes:

(1) Tensional cracks formed as a consequence of doming irrespective of origin of doming.
(2) Faults produced by earth-folding movements.
(3) Displacements produced directly by movements of igneous magma.
(4) Expansion or contraction by heating and cooling of whatever origin, and by other metamorphic action, such as addition or subtraction of mineral matter. Included also is contraction upon dolomitization.
(5) Cavities formed by solution by underground water and by settlement after solution.

It has been known for some years that wherever contours drawn on the upper surface of the Washita are closer spaced than the average or abruptly change direction fracturing is probable and consequently profitable production may be sought for with greater chances of success. The limestone below the top of the Benton is so brittle that it yields by shattering in the zones where the rate of dip has increased under deformative influences.

The Tanchiquin syncline enters the Panuco section from the west flank of the Panuco anticline, forming a broad embayment between the north-northwest flank of the southern part, the west flank of the northern part and the south flank of the area of high structure of Western Cacalilao. Five minor syncline plunge westward into the main sylclines from the west flank of the Panuco anticline. The plunge of the trough is in a general southwestward direction from the north end of the northern domical area of the north end of the main Panuco anticline. The Halcon fault of the east flank of the syncline is at least one-half mile long with a direction of north 28 degrees 12 minutes east.

(To be continued)

Ray Alexander, of the Marland Oil Company land department, Ft. Worth, was in Houston late last week on business.

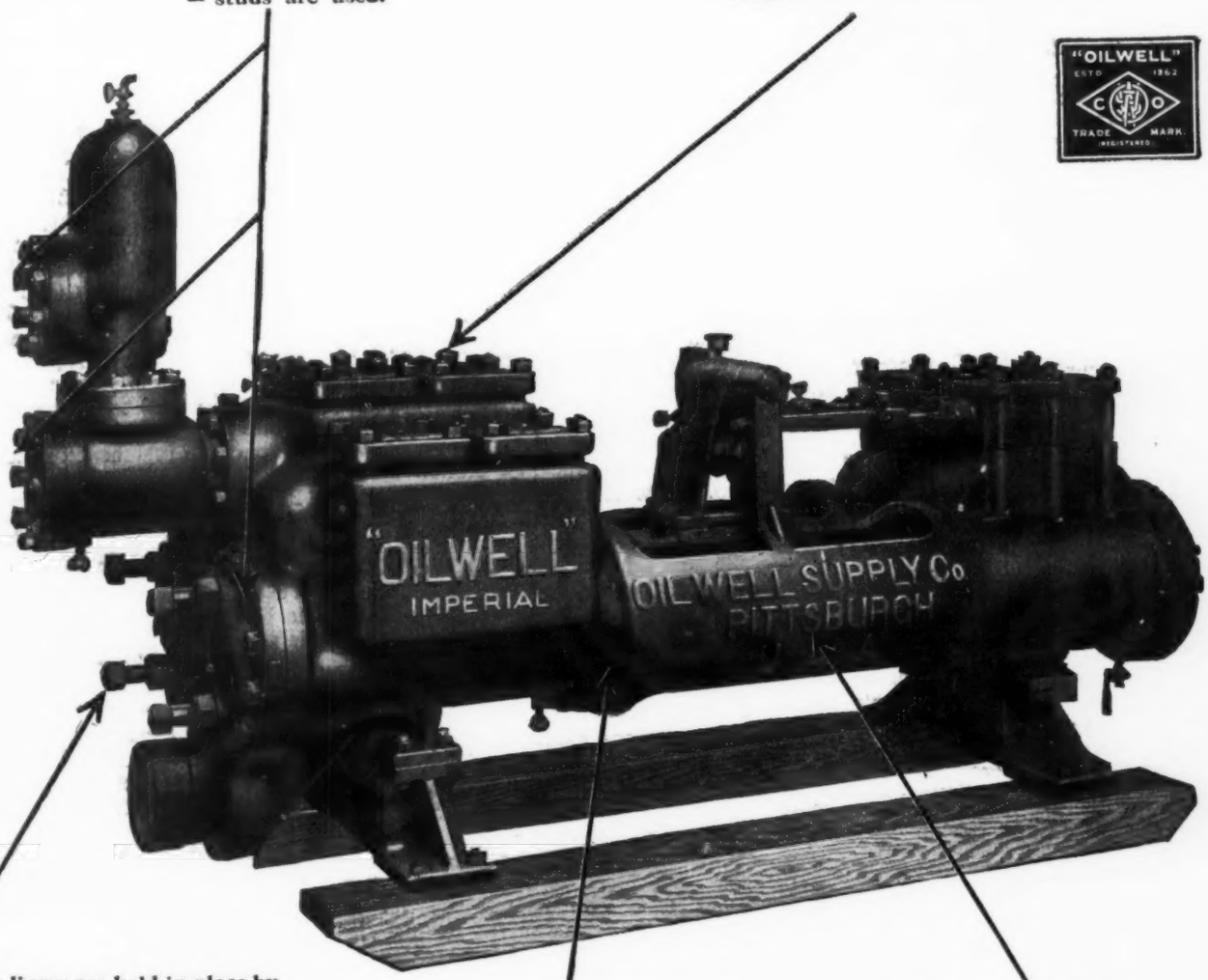
H. P. Bostaph, sales manager of the Texas Steel Company, Fort Worth, was a recent visitor in Houston, where he culminated arrangements with the firm of Lawrence-Anderson Sales Company of that city to represent his company in the sale of the Texas Electric Steel Sucker Rod in the Gulf Coast territory.

Good "Mud Hogs" Are Now Made Better

WHEREVER Rotary Drilling is practiced, **"OILWELL"** "Mud Hog" Pumps have always been known as Good "Mud Hogs." In the Imperial "Mud Hogs" now being furnished, the Good "Mud Hogs" are made better because:

1 More and larger studs are used.

2 The valve caps are held by means of studs.



3 The liners are held in place by adjusting screws which permit tightening of liners from the outside of the cylinder heads.

4 The piston rod stuffing boxes are replaceable.

5 The cradle has been strengthened.

The Imperial "Mud Hog" Pump is designed for a working pressure of 800 lbs. and the Imperial "Giant Mud Hog" Pump for a working pressure of 1,000 lbs. Both pumps can be furnished in steam driven or power driven types.

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WORLD'S OLDEST AND LARGEST MANUFACTURERS OF OIL FIELD EQUIPMENT

Panhandle Production Curtailment Plans Given Setback by Completions

Amarillo, Texas—Efforts to hold down crude production in the Texas Panhandle were given a setback during the past week with the completion of unusually large flowing wells in Carson, Hutchinson and Wheeler Counties. The Prairie Oil & Gas Company topped the list of large producers with the completion of Cal Merchant 2-B flowing 110 barrels pipe line oil per hour natural from lime pay at 2740-49 feet. This well is a south offset to the Merchant pool discovery well in section 37, block 47, Hutchinson County. Prairie spudded this well on January 10 and passed up 90,000,000 cubic feet of gas at 2480-2510 feet. The Shamrock Petroleum Company, Wichita Falls, and others, share an interest with Prairie in the Merchant lease.

The Shamrock field, Wheeler County, registered two flowing wells offsetting production. The Continental Oil Company's W. C. Company 2, located in the northwest corner of the northwest quarter of the southwest quarter of section 12, block 27, flowed 760 barrels 38 degree gravity oil initial from granite wash pay at 2265-76 feet. Marland's first producer in the field gauged 650 barrels 39 degree gravity oil during first 15 hours, when W. E. Bentley 1 dirlled granite wash pay at 2328-35 feet, with a surface elevatior of 2388 feet. This producer is in the southwest corner of the northeast quarter of section 41, block 24, offsetting Gibson Oil Corporation's extension well. The Piney Oil & Gas Company, subsidiary of the Columbian Carbon Company, promises to extend the Gibson-Bentley area a mile to the northwest, with 1000 feet of oil standing in the J. A. Clark test, after drilling one foot in sandy-lime pay at 2345 feet. Storage is being erected to drill in. This test has a surface elevation of 2399 feet, and is located in the southwest corner of section 58, block 24. The Clark 1, located a quarter mile to the northeast, failed to produce in lime at 2325-35 feet, and was recently abandoned at 2395 feet in water, after topping the lime at 2710 feet.

Direct pipe line connections for the Shamrock field will be made by the Humble Pipe Line Company to replace tank car shipments of crude from the field loaded on cars at rack on Rock Island Railroad at Lela, located south of the field. Humble is building a pump station in section 41, block 25, Gray County, and will connect up its Shamrock field gathering system with a four-inch line, while a six-inch line approximately 20 miles in length will be built from the new station in section 41 to Humble's 10-inch main line extending from Carson County to Comyn in Central West Texas. Humble will tap the trunk line near Allenreed in the lower end of Gray County. This new pipe line work will result in a connection being given the Nabob Oil & Gas Company's wildcat pumper on the Morse land in eastern Gray County.

Two minor extensions to the Roxana-Byran field, Carson County, were made during the past week with a good flush output. Roxana's E. F. Bryan 1-C, located in the southwest corner of the southeast quarter of section 107, block 4, increased its flow from 160 barrels daily to 1800 barrels after shot of 100 quarts at 3189-3240 feet. Marland Oil Company's Jordan-Brown 1, located in the northeast corner of the east 160-acre strip in section 93, gauged 500 barrels inititai at 3115 feet, with a surface elevation of 3226 feet. Delmar Oil Company's T. D. Lewis 1, located in the southwest corner section 115 and offsetting Marland and Republic's light pumpers, swabbed and flowed 165 barrels initial at 3184-90 feet.

Wildcat interest in Hutchinson County centered on the Marland Oil Company's E. M. A. Carver 1, located in the northeast part of the William Heath survey near the Moore County line, during the past week, when a light spray of oil developed from two feet of lime pay at 3250-52 feet. This well logged the top of the lime at 2535 feet, with a surface elevation of 3367 feet, thereby indicating favorable structural conditions. The test will be drilled in Wednesday or Thursday. The nearest oil production in the county lies 10 miles to the southeast. Marland took this block, which consisted of 5000 acres, in March, 1926, with a 3200-foot contract, and farmed it out to Lee Flowers and associates. The operation of the well is now under the management of Marland.

In the proven section of Hutchinson County, the Skia-Tex Petroleum Company's W. L. Kingsland 5 made 800 barrels initial after being shot with 450 quarts at 2900-2986 feet. Phillips Petroleum Company's Whittenburg-Haines 4 gauged 1200 barrels natural when agitated in lime pay at 2918-35 feet.

PANHANDLE OPERATIONS

Amarillo, Texas—Condensed summary of field operations in the Texas Panhandle district at the close of the week ending March 26 is listed below by counties, with comparative totals for the previous week:

	Completions	Active Tests	Shut Downs	Rigs and Derricks	Locations	Totals
Armstrong Co.			1			1
Briscoe Co.		1				1
Carson Co.	3	66	6	5	3	83
Castro Co.		1	1	1		3
Childress Co.		1		1		2
Cochran Co.			1			1
Collingsworth Co.		2	1		1	4
Dallanm Co.		2	1			3
Deaf Smith Co.			1	1		2
Donley Co.		1				1
Gray Co.		41	10	7	3	61
Hansford Co.		1	1			2
Hartley Co.	1	5	2			8
Hemphill Co.			3			3
Hutchinson Co.	16	151	36	44	16	263
Lipscomb Co.		1	2			3
Lubbock Co.			1			1
Moore Co.	1	10				11
Motley Co.			1	1		2
Ochiltree Co.			4	1		5
Oldham Co.		1				1
Parmer Co.		1				1
Potter Co.			2	1		3
Randall Co.			1			1
Roberts Co.		1	3	3		7
Sherman Co.	1	1			3	5
Swisher Co.					1	1
Wheeler Co.	3	21	7	5	1	37
Totals	25	308	85	70	28	516
Totals prev. week.	26	314	72	89	42	543

Will Build West Texas Gas Line

Amarillo, Texas.—The West Texas Public Service Corporation has been organized to construct approximately 203 miles of pipe line made up of 16, 14, 12, 8 and 6-inch pipe from gas wells on the Lee Bivins ranch in Potter County to various cities and towns in the Texas plains country, with Slaton, Lubbock County as the terminus. The company is chartered under the laws of Delaware, and plans to float a $5,500,000 bond issue to finance the project.

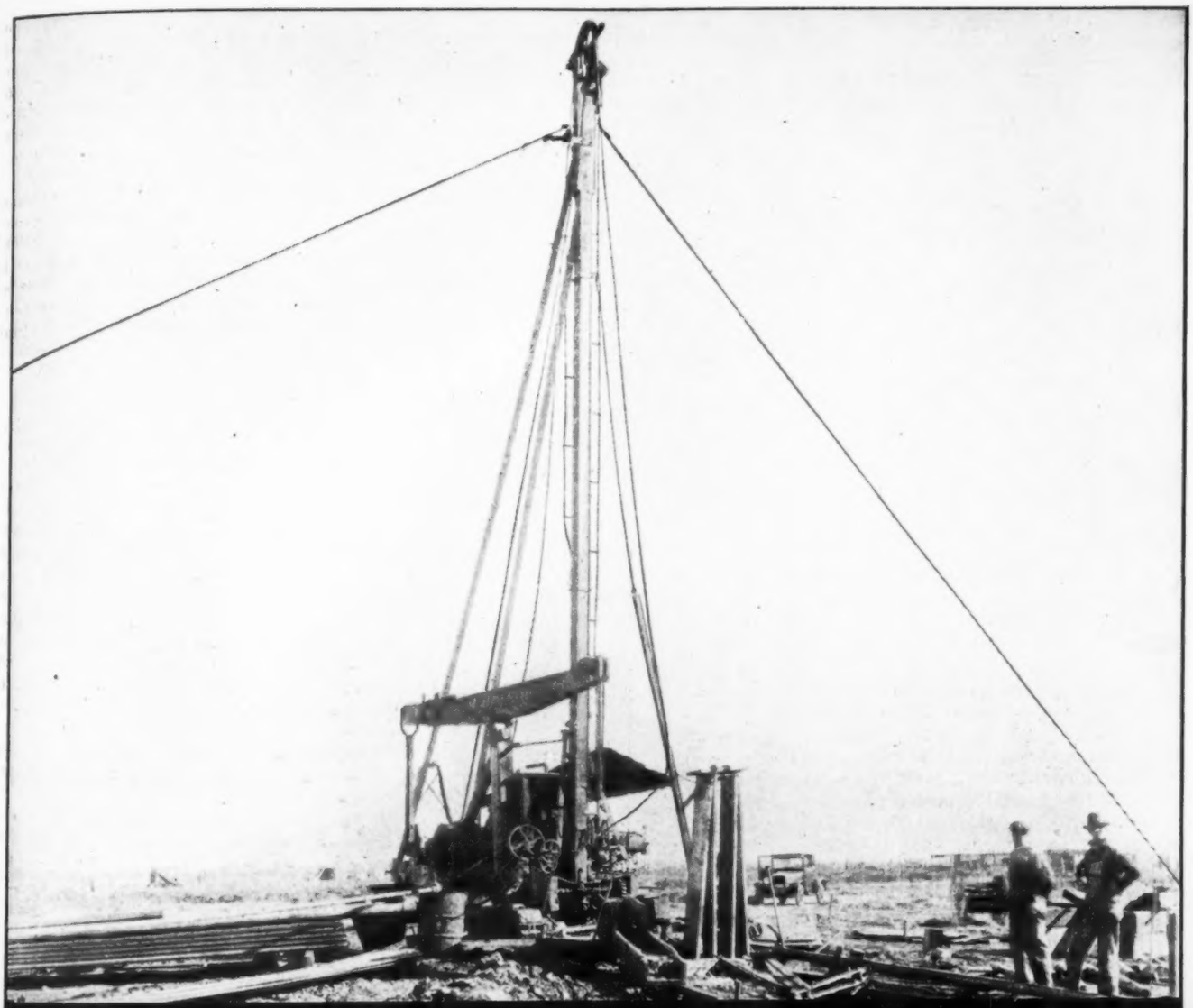
Contracts for the construction of the gas line have been awarded to Wilson Brothers of Tulsa, and construction work will proceed upon the completion of negotiations for the bond issue. This project is an outgrowth of the efforts of the Texas Gas Company made last summer to build the same gas system, but using larger pipe in the trunk line. A. J. McMahon of Oklahoma City, Geo. R. and Frank Broadwell have been the most active in organizing the company, while Peabody, Houghteling & Sheritt Company of Chicago and the National Supply Company will each have representatives on the board of directors of the new corporation.

The gas supply for this project will be obtained from the Lee Bivins Ranch, and a contract has been made for 11,640 acres of gas proven leases. Bivins is to drill the gas wells and furnish a maximum of 10 million cubic feet daily at three and one-half cents per thousand cubit feet until the wells are paid for.

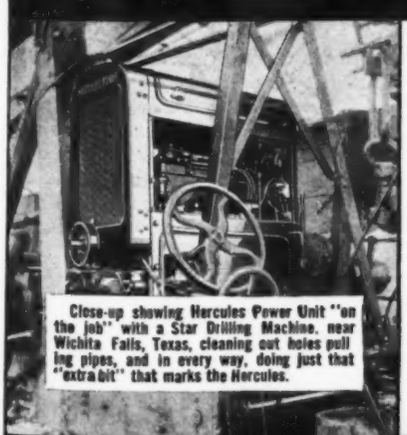
Three Blue Ridge Wells Add 2100 Barrels

Houston.—Three completions at Blue Ridge field, Fort Bend County, during the past week added 2100 barrels new production and prompted the staking of two new locations. Eleven rigs were running in the field early this week.

Gulf brought in its West Schenck 9 for 1000 barrels pipe line oil, 23 gravity, from 3210 feet. Navarro Oil Company completed its Robinson B-2 on the northwest side of the dome for 700 barrels after it had been drilled into salt and plugged back for a test of more than 50 feet of broken pay formation. The Humphreys Corporation made a 400 barrel well in its West Schenck 1 after working it over at around 3200 feet.



HERCULES



Close-up showing Hercules Power Unit "on the job" with a Star Drilling Machine, near Wichita Falls, Texas, cleaning out holes pulling pipes, and in every way, doing just that "extra bit" that marks the Hercules.

The excessive demands made upon the power plant in customary oil field service are exactly the demands that Hercules Engines are designed and manufactured to meet.

Hercules Engines will turn out power—day after day, month after month—in continuous service—without excessive wear; and with a dependability that carries their reputation, by word of mouth, around the globe.

So it is natural that more and more oil field producers are asking of their equipment suppliers, "Is it Hercules-equipped?"

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Say you saw it in The OIL WEEKLY

Relation of Structure to the Accumulation of Oil

(Continued from page 30)

This paper concluded the symposium of the relation of structure to the accumulation of oil and the remaining sessions were given over to papers of a general nature.

West Texas

The stratigraphic position of the Big Lime in West Texas was taken up by E. C. Edwards. Geologically West Texas is a structural geosyncline, and during Permian times it was a basin of deposition.

The Permian sea invaded from the southwest and clastic sediments were derived from ancient Llanoria, from the Wichita Mountains, the Igneous ridges of the Panhandle and from the Ancestral Mountains of New Mexico. This material formed a fringe of red clastic sediments around the lanward portion of the permian sea. These, when traced seaward in directions normal to the strand lines, grade into marine sediments, chiefly dolomitic limestones.

The latter constitute what is called the "Big Lime". The top of the Big Lime is the keybed used in subsurface work in West Texas. The upper part of the Big Lime series is found to be of Double Mountain age, and may correlate with the World formation of the Glass Mountain area, and the Delaware formation of the Trans-Pecos area.

Finally, following the deposition of the Big Lime, a closed or restricted basin developed. By virtue of this fact, the upper Permian measures are chiefly chemical salts deposited from supersaline water.

Of particular interest among the other general papers was one read by J. L. Rich on the generation of oil by Geologic distillation. In regions of intense mountain folding, Mr. Rich said, such as the Appalachians or the Ouachitas, we find black, carbonaceous shales which presumably once contained the oil that is to be found in equivalent rocks outside of the metamorphosed zone. During the time of mountain building when the folding apparently took place at a great depth underneath overthrust sheets of, perhaps, Alpine proportions. Mr. Rich holds conditions were favorable for the distillation of oil from carbonaceous beds. The oil and gas distilled under such circumstances was driven out to cooler zones by the heat and gases generated by the distillation.

In later geologic ages, by well-known processes of mountain evolution, the old mountain area would become worn away and later broadly uplifted, bringing the rocks formerly subjected to distillation to the surface. In this manner their porous beds are opened to the inflow of meteoric waters. The oil then is further listributed by the artesian circulation.

The working hypothesis is advanced that a major part of the world's oil may have been formed by such a process of geologic distillation associated with mountain building and that much of it, outside of the zone of active distillation, may have migrated more or less widely to its present resting place under the influence of secondary agencies.

Under this hypothesis three zones may be recognized: 1, Zone of complete distillation—no oil remaining, carbon ratios high, carbonaceous rocks devolitilized; 2, zone of distillation and secondary accumulation—oil partly distilled in places, partly migrated from adjacent zones of more intense metamorphism, carbonaceous rocks partly devolitilized; 3, zones of secondary accumulation—situated outside of zone of active distillation, oil migrated from adjacent zones under influence of gas pressure and artesian circulation; carbonaceous rocks still in the state of "oil shale".

According to Mr. Rich such a working hypothesis explains many facts not readily understood otherwise.

Arkansas Valley Region

The next paper was on the oil possibilities of the Arkansas Valley region, Arkansas. G. C. Branner, who presented the paper, said that there are very good possibilities of finding production along the northern edge. He pointed out that there the carbon ratios show a favorable decrease.

In a paper, Calcium Chloride Water, Connate and Diagenetic, Alfred C. Lane corrected the statement by Hudson and Taliaferro that the present author considers them bitterns. Lane argues for their production by the absorption of water and magnesia (and perhaps solution of chlorine) in the chloritization or similar altermation of volcanic ash such as that to bentonite. It is suggested by the author that volcanic ash showers may have had something to do with the devastation of the life which was the original source of the petroleum as well as to have furnished a silico-chloride glass, the leaching and alteration of which yielded chlorine and absorbed the magnesia and water to produce the salt waters that go with the oil. He further states that the original Na: Cl ration of the ocean has increased during geologic time,

"Epi-anticlinal" Faults

Theodore A Link contributed the results of work in experimental studies on the origin and significance of "epi-anticlinal" faults.

He said that the development or growth of an anticline causes stretching or tension within the beds in the longitudinal as well as the transverse cross-section of the resulting fold. "Epi-anticlinal" or transverse faults are tension fissures which develop contemporaneously with the growth of the anticline. Displacements along such transverse tension fissures are also contemporaneous phenomna and give rise to "hinge", normal, high-angle thrust, as well as horizontal faults.

The development of "epi-anticlinal" faults which converge toward the locus of maximum active stresses is a necessary corallary to the described conception. The application of this principle to field conditions shows conclusively that the active stresses which caused the building of the Rocky Mountains came from the west, and consequently all theories postulating active stresses working from east to west must be discarded as untenable.

The origin of "epi-anticlinal" faults is only one of the numerous principles which came to light during the intensive study in experimental structural geology extended over a period of one year. Other important phenomena and features such as "en-eschelon" folds, "discoidal" faults, arcuate mountain ranges, over-, under- and lateral thrust faults, furficial and deep-seated rotational stresses, igneous intrusions and extensions were interesting side lights on salt dome formation, etc., were observed and reasonable explanations of their mode of origin and development have been formulated. Their presentation at this time is not possible.

Dr. R. H. Palmer, in speaking of the geology of the Olympic Peninsula, Washington, described the main structure as being an extensive faulted anticline extending from Cape Flattery south of east 60 miles or more. Minor structures as faults and folds parallel this structure. A fold reflected in the Pleistocene deposits is to be drilled.

In a joint paper by R. C. Beckstrom and F. M. Van Tuyl on the effectiveness of compaction as a cause of migration of petroleum, the authors reached the conclusion that this process is a very important cause of movement of petroleum from source beds into the reservoir rocks.

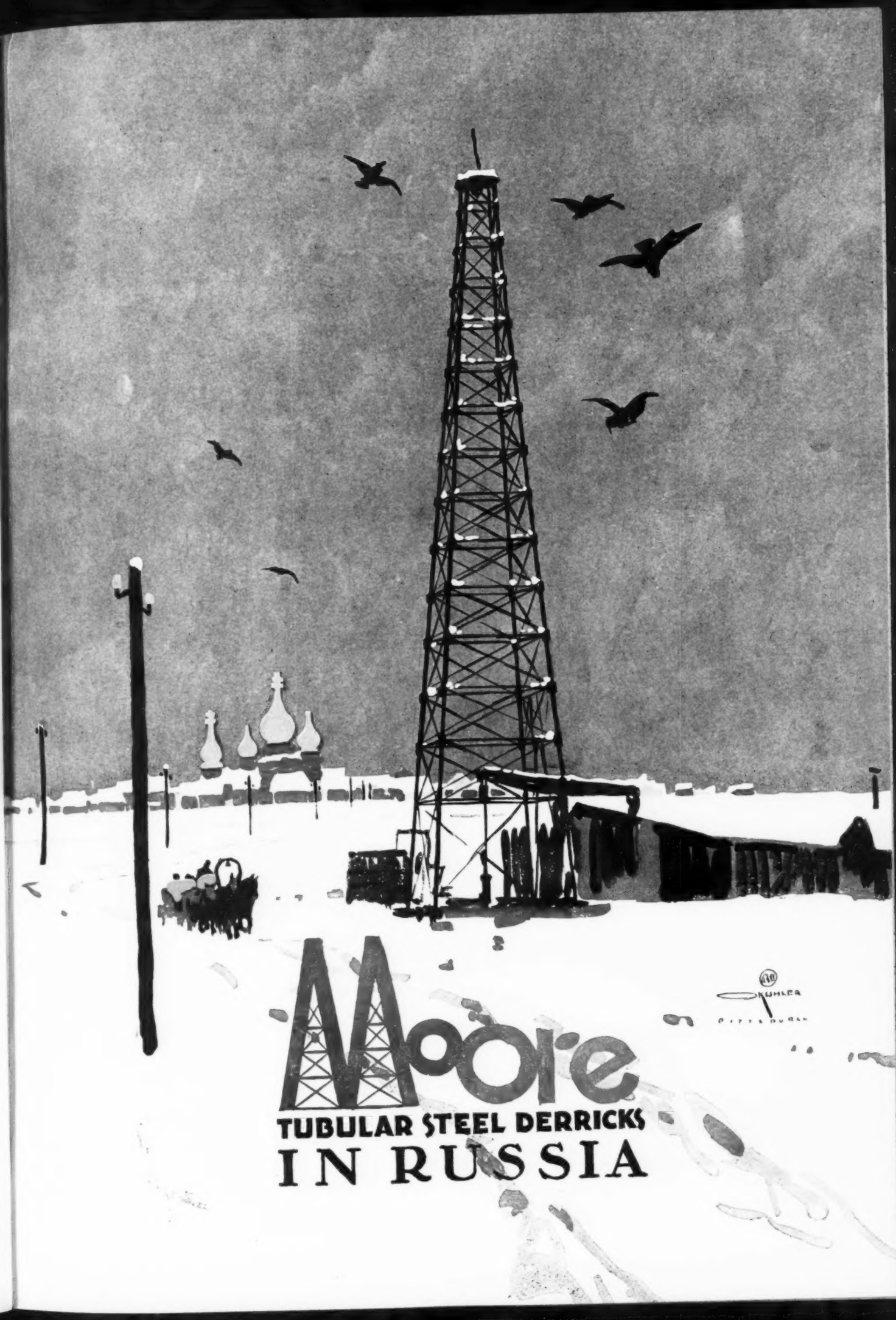
In discussing the Gaptank-Wolfcamp problem of the Glass mountains, Texas, I. A. Keyte, W. Grant Blanchard, Jr., and H. L. Baldwin, Jr., described the Gaptank as composed of shales, limestones and thick, brown sandstones. The lower Gaptank is Canyon, the upper, Cisco. In post-Gaptank time, this region was folded and faulted, followed by a long period of erosion previous to submergence and deposition of the Wolfcamp (Permian); the region again emerged during which time nearly all the Wolfcamp was eroded, as shown by the Hess, lying on the surface of the Gaptank in many places.

Pre-Cambian of Kansas

In a petrographic study of the pre-Cambian of Kansas, Kenneth K. Landes stated that many wells have penetrated the pre-Cambian surface along the granite ridge and elsewhere in Kansas. He pointed out that the examination of cuttings from wells which have been drilled some distance into the ancient crystallines confirms the idea that the Kansas pre-Cambian rocks compose a metamorphic complex, mainly gneiss and schist, rather than granite.

Kerogen, and its Relation to Petroleum, by F. M. Van Tuyl, G. L. Shue and G. W. Thomas, contained the statement that beyond question the solubility of kerogen is a function of the size of the particles, increasing with the fineness of the material.

One other paper of not a little interest was "Western 'Red Beds', Marine or Nonmarine?" by E. B. Branson. The author stated that the Triassic and Jurassic "Red Beds" of the Rocky Mountain region have two sharply contrasted types of lithology, one of the marine origin and the other nonmarine.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In RUSSIA

Where bleak snowfields stretch away endlessly and mighty storm devils battle to protect the oil treasures of mother earth, Moore Tubular Steel Derricks give unfailing service.

Their tubular strength with attendant light weight, their simplicity of construction and the ease of their transportation are indeed essential in such a land of great distances and uncertain labor supply.

Moore engineering skill and manufacturing excellence have done much to lessen drilling hazards the world over.

Moore
TUBULAR STEEL DERRICKS

LEE C. MOORE & COMPANY, INC. PITTSBURGH · TULSA

Established 1907

Dallas, Texas · Houston, Texas · Wichita Falls, Texas · Isom, Texas · Parkersburg, W. Va.
Casper, Wyo. · Shreveport, La. · El Dorado, Kan. · El Dorado, Ark.

United States Daily Average Production

Figures below are taken from the complete revised estimates of the AMERICAN PETROLEUM INSTITUTE except for the current week, which are advance estimates issued by the A. P. I. and are subject to revision;

Month—	Oklahoma	Kansas	Texas (Outside Gulf Coast)	Gulf Coast	North Louisiana	Ark.	Eastern States	Rocky Mountain	California	United States Ave.	Gross
January	449,370	100,130	260,180	90,290	43,990	181,190	101,000	102,300	621,300	1,946,980	60,356,380
February	450,037	101,937	245,989	91,550	45,090	169,676	99,000	98,412	605,250	1,909,637	53,469,836
March	454,762	103,300	260,262	92,712	48,787	164,312	97,625	102,325	604,500	1,929,562	59,816,422
April	467,175	101,825	263,612	88,812	50,562	169,824	100,875	106,675	600,000	1,947,387	58,421,610
May	463,750	105,690	277,700	94,550	58,150	175,430	105,700	112,300	602,720	1,995,990	61,875,690
June	456,450	107,637	302,187	89,912	60,412	167,887	106,250	112,925	606,925	2,013,187	60,395,610
July	456,920	110,320	336,600	114,760	57,460	161,870	104,700	108,520	613,940	2,062,470	63,936,570
August	465,137	111,600	381,550	161,237	56,787	157,375	108,350	110,737	609,725	2,162,662	67,042,522
September	465,387	113,037	402,212	175,512	56,575	154,037	110,125	105,825	598,100	2,180,862	65,425,860
October	497,120	114,720	439,190	170,350	58,200	149,810	109,500	99,060	611,600	2,259,850	70,055,350
November	551,225	115,425	475,987	176,425	56,575	144,100	111,125	93,537	641,325	2,365,475	70,964,250
December	561,012	118,950	483,250	181,263	55,137	139,250	110,375	87,650	659,925	2,396,112	71,279,472
January, 1926	591,570	117,490	466,910	176,330	53,030	132,648	108,100	83,910	655,660	2,385,650	73,955,150
February, 1927	683,775	116,200	479,175	154,975	52,850	128,362	107,250	85,237	642,775	2,455,612	69,157,136
March 5	701,400	116,400	478,900	154,150	52,550	125,650	106,000	83,400	645,600	2,464,050	.....
March 12	708,850	116,350	475,250	154,850	52,400	124,050	105,000	85,800	638,500	2,461,050	.....
March 19	706,900	115,000	471,150	154,400	49,750	124,950	104,000	91,700	644,600	2,463,450	.....
March 26	711,600	115,700	476,300	153,650	51,100	124,000	103,000	87,900	638,700	2,461,950	76,341,375
Increase	4,700	700	5,150	.....	1,350	.....	.....	.....	.....	.....	.....
Decrease	.....	.....	.....	750	.....	950	1,000	3,800	5,900	1,500	.....

TEXAS
(Outside Gulf Coast)

PANHANDLE DISTRICT

	Mar. 26	Mar. 19
Hutchinson County	106,450	108,850
Gray County	8,200	7,550
Carson County	7,550	7,500
Wheeler County	2,000	1,850
Others	50	50
Totals	124,150	125,800

NORTH TEXAS

Burkburnett	13,250	13,500
Electra	15,000	15,050
Iowa Park-K-M-A	4,350	4,550
Wilbarger	13,800	13,900
Archer County	30,500	31,000
Clay County (Petrolia)	800	800
Baylor County	100	100
Montague and Cooke Counties	13,500	12,500
Totals	91,300	91,400

WEST CENTRAL TEXAS

Stephens County	9,900	9,800
Eastland-Desdemona	6,200	6,150
Brown County	35,100	34,000
Coleman County	1,650	1,600
Callahan County	5,100	5,200
Shackelford County	13,900	14,250
Young County	8,000	8,100
Throckmorton County	3,700	3,800
Jack County	650	650
Palo Pinto County	2,200	2,300
Jones County	3,100	3,200
Mitchell-Scurry Cos.	4,250	4,100
Howard County	2,250	2,300
Reagan County	27,550	27,500
Crane-Upton Counties	48,500	45,000
Crockett County	1,400	13,000
Pecos County	5,000	4,200
Others	2,500	800
Totals	180,900	174,250

EAST CENTRAL TEXAS

Mexia	11,000	11,000
Currie	650	650
Richland	950	1,000
Wortham	4,000	4,100
Corsicana-Powell	19,750	19,900
Nigger Creek	5,900	5,950
Totals	42,250	42,600

SOUTHWEST TEXAS

Luling	18,350	18,300
Lytton Springs	2,350	2,400
Somerset	1,250	1,350
Laredo District	15,050	14,300
Piedras Pintas	50	100
Others	650	650
Totals	37,700	37,100
T'ls Tex. (outside Gulf Coast)	476,300	471,150

TEXAS GULF COAST

West Columbia	10,050	10,250
Damon Mound	1,050	1,050
Big Creek	4,800	4,750
Boling	1,750	1,900
Blue Ridge	3,250	3,100
Pierce Junction	7,950	8,450
Humble	4,000	4,000
Goose Creek	7,400	8,000
South Liberty	3,550	3,600
Hull	16,250	16,400
Saratoga	1,150	1,200
Batson	1,550	1,450
Sour Lake	5,100	5,200
Spindle Top	58,750	60,500
Orange County	5,100	5,050
Others	5,900	6,100
Totals	137,600	141,000

OKLAHOMA

North Braman	6,300	6,600
South Braman	4,100	4,150
Blackwell	4,000	4,000
Hubbard	5,950	5,300
Thomas	1,700	6,550
Garber	17,600	17,900
Tonkawa	24,250	24,650
Burbank	45,950	47,550
Osage (outside Burbank)	35,250	35,300
Watchorn	2,700	2,750
Cushing	21,250	21,300
Yale Jennings	11,950	11,850
Davenport	3,550	3,600
Bristow Slick	27,300	27,300
North Okmulgee	17,250	17,250
Lyons Deaner	4,400	4,400
Stroud	1,500	1,500
Cromwell	13,500	13,700
Papoose	7,450	7,200
Wewoka	17,750	18,300
Duncan District	6,750	6,800
Earlsboro	36,300	32,600
Graham	8,500	9,000
Fox	1,800	1,850
Healdton	14,700	15,000
Seminole	281,750	276,850
Hewitt	9,950	10,450
Scholem Alechem	14,200	14,850
Others	63,850	63,350
Totals	711,600	706,900

CALIFORNIA

Seal Beach	26,500	29,700
Santa Fe Springs	44,000	44,000
Long Beach	92,500	93,000
Huntington Beach	76,000	78,000
Torrance	24,500	24,500
Dominguez	18,000	18,000
Rosecrans	10,500	11,000
Inglewood	37,000	38,000
Midway-Sunset	89,000	89,000
Ventura Avenue	51,000	48,900
Others	169,700	170,500
Totals	638,700	644,600

KANSAS

Florence-Covert	1,900	1,900
Peabody-Elbing	3,850	3,850
Eldorado-Towanda	13,250	13,250
August-Fox Bush	4,650	4,650
Rainbow Bend	2,450	2,500
Russell	3,250	3,150
Greenwood County	41,450	41,550
Churchill	15,600	15,850
Others	29,300	28,300
Totals	115,700	115,000

NORTH LOUISIANA

Homer	5,300	5,300
Haynesville	7,900	7,950
Caddo Light	10,100	10,050
Caddo Heavy	4,500	4,600
DeSoto-Red River	4,300	4,000
Elm Grove	650	750
Bellevue	1,650	1,650
Cotton Valley	6,100	6,150
Urania	10,600	9,300
Totals	51,100	49,750

LOUISIANA GULF COAST

Vinton	5,200	5,250
Lockport	5,550	2,850
Evangeline	950	950
Edgerly	1,150	1,150
Others	3,200	3,200
Totals	16,050	13,400
Totals Gulf Coast	153,650	154,400

ARKANSAS

El Dorado	6,200	6,250
Smackover Light	11,700	11,800
Smackover Heavy	98,250	99,000
Stephens	1,350	1,300
Nevada	1,750	1,750
Lisbon	4,550	4,650
Others	200	200
Totals	124,000	124,950

MOUNTAIN STATES

WYOMING

Salt Creek	42,900	46,400
Grass Creek	2,800	2,900
Elk Basin	900	1,000
Big Muddy	2,850	2,800
Lost Soldier	3,800	3,550
Rock River	3,000	2,950
Teapot Dome	1,100	950
Lance Creek	700	750
Others	2,650	2,950
Totals	60,700	64,250

MONTANA

Cat Creek	2,400	2,350
Sunburst	12,000	12,000
Others	200	200
Totals	14,600	14,550

COLORADO

Moffats (Craig)	2,250	2,450
Fort Collins	3,600	3,850
Florence	700	700
Others	1,100	950
Totals	7,650	7,950

NEW MEXICO

Table Mesa	250	250
Artesia	2,000	2,000
Hogback	800	800
Rattlesnake	1,900	1,900
Totals	4,950	4,950
Totals Mountain States	87,900	91,700

EASTERN STATES

(Including Ill., Ind., Ohio, W. Va., Pa., Ky., and N. Y.)	103,000	104,000

PRODUCTION SUMMARY

East of Rockies	1,735,350	1,727,050
United States	2,461,950	2,463,450

CRUDE OIL PRICE QUOTATIONS

Current Postings

EASTERN STATES

	March 30 1927
New York Transit	$3.15
Bradford District	3.15
National Transit	3.05
Southwest	3.05
Eureka	3.00
Buckeye	2.85
Macksburg	2.80
Gaines	2.60
Somerset	1.70
Cabell	1.60
Ragland	.95
Corning	1.50
Keister	1.45

CENTRAL STATES

Illinois	1.60
Indiana	1.48
Lima	1.71
Plymouth	1.33
Princeton	1.60
Waterloo	1.18
Wooster	1.77

WESTERN KENTUCKY

Posted by Stoll Refining Company for crude from Allen, Warren, Franklin, Davies, Barren, All grades 1.50

MIDCONTINENT

Prairie, Sinclair, Gulf, Texas and Magnolia Cumberland and Monroe Counties.

	March 30 1927
Below 28 (Magnolia only)	1.10
28 to 28.9 gravity	1.12
29 to 29.9 gravity	1.14
30 to 30.9 gravity	1.16
31 to 31.9 gravity	1.18
32 to 32.9 gravity	1.20
33 to 33.9 gravity	1.22
34 to 34.9 gravity	1.24
35 to 35.9 gravity	1.26
36 to 36.9 gravity	1.28
37 to 37.9 gravity	1.30
38 to 38.9 gravity	1.32
39 to 39.9 gravity	1.34
40 to 40.9 gravity	1.36
41 to 41.9 gravity	1.38
42 to 42.9 gravity	1.40
43 to 43.9 gravity	1.42
44 to 44.9 gravity	1.44
45 to 45.9 gravity	1.46
46 to 46.9 gravity	1.48
47 to 47.9 gravity	1.50
48 to 48.9 gravity	1.52
49 to 49.9 gravity	1.54
50 to 50.9 gravity	1.56
51 to 51.9 gravity	1.58
52 and above	1.60

NORTH AND CENTRAL TEXAS

Ranger, North Texas, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie Moran and Nocona Crude

Humble O. & R. Co.* and Texas Co.

28 to 28.9 gravity	1.12
29 to 29.9 gravity	1.14
30 to 30.9 gravity	1.16
31 to 31.9 gravity	1.18
32 to 32.0 gravity	1.20
33 to 33.9 gravity	1.22
34 to 34.9 gravity	1.24
35 to 35.9 gravity	1.26
36 to 36.9 gravity	1.28
37 to 37.9 gravity	1.30
38 to 38.9 gravity	1.32
39 to 39.9 gravity	1.34
40 to 40.9 gravity	1.36
41 to 41.9 gravity	1.38
42 to 42.9 gravity	1.40
43 to 43.9 gravity	1.42
44 to 44.9 gravity	1.44
45 to 45.9 gravity	1.46
46 to 46.9 gravity	1.48
47 to 47.9 gravity	1.50
48 to 48.9 gravity	1.52
49 to 49.9 gravity	1.54
50 to 50.9 gravity	1.56
51 to 51.9 gravity	1.58
52 and above	1.60

Corsicana Heavy, $1.00 per barrel, posted by Magnolia.

*Until further notice, Ranger, North Texas, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie, Moran and Nocona crudes purchased at agravity lower than 28 degrees will be paid for at the posted price for 28 degrees gravity.

SOUTH TEXAS

	March 30 1927
Mirando	1.00

SOMERSET

Grayburg and Pioneer

28 to 28.9 gravity	1.12
29 to 29.9 gravity	1.14
30 to 30.9 gravity	1.16
31 to 31.9 gravity	1.18
32 to 32.9 gravity	1.20
33 to 33.9 gravity	1.22
34 to 34.9 gravity	1.24
35 to 35.9 gravity	1.26
36 to 36.9 gravity	1.28
37 to 37.9 gravity	1.30
38 and up	1.32

GULF COAST

Grade "A" all companies	1.20
Gulf Coast Light Oil, Below 25	1.15
25 to 25.9 gravity	1.17
26 to 26.9 gravity	1.19
27 to 27.9 gravity	1.21
28 to 28.9 gravity	1.23
29 to 29.9 gravity	1.25
30 to 30.9 gravity	1.27
31 to 31.9 gravity	1.29
32 to 32.9 gravity	1.31
33 to 33.9 gravity	1.33
34 to 34.9 gravity	1.35
35 to 35.9 gravity	1.37
36 to 36.9 gravity	1.39
37 to 37.9 gravity	1.41
38 to 38.9 gravity	1.43
39 to 39.9 gravity	1.45
40 and above	1.47

*Humble Oil & Refining Company's postings on Gulf Coast Light stop at 35 to 35.9. Its price on all crudes above 35 is $1.37 per barrel.

Magnolia Petroleum Company's postings stop at 31 to 31.9.

MARKHAM

The Texas Company

All grades	1.00

LULING

All grades	1.15

(Continued on page 54)

California Crude Oil Prices at the Well

Following are the current prices offered by Standard Oil Company for crude oil at the well: (Price per barrel of 42 gallons in fields indicated)

Gravity (degrees)	Signal Hill	Huntington Beach	Inglewood	Olinda-Brea Canon	Roescrans Dominguez	Torrance	Richfield	Whittier	La Habra	Montebello	Coyote Hills	Santa Fe Springs	Newhall	Midway-Sunset Elk Hills	McKittrick	Lost Hills	Coalinga	Kern River	Wheeler Ridge
14-14.9	$ .85	$ .85	$ .85	$ .85	$ ..	$ .85	$ .85	$ .85	$ .85	$ .85	$ .85	$ ..	$ .75	$ .75	$ .75	$ .75	$ .75	$ .75	$ .75
15-15.9	.87	.87	.87	.87	..	.87	.87	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75	.75
16-16.9	.90	.90	.90	.90	..	.90	.90	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75	.75
17-17.9	.94	.94	.94	.94	..	.94	.94	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75	.75
18-18.9	.98	.98	.98	.98	..	.98	.98	.86	.86	.86	.86	..	.75	.75	.75	.75	.75	.75	.75
19-19.9	1.04	1.04	1.04	1.04	..	1.04	1.04	.87	.87	.87	.87	..	.75	.75	.75	.75	.75	.75	.75
20-20.9	1.10	1.10	1.10	1.10	..	1.10	1.10	.89	.89	.89	.90	..	..	.82	..	.82	.79	..	.78
21-21.9	1.16	1.16	1.16	1.16	..	1.16	1.16	.91	.91	.91	.98	..	..	.90	..	.90	.86	..	.81
22-22.9	1.22	1.22	1.22	1.22	..	1.22	1.22	.94	.94	.94	1.06	..	..	1.00	..	1.00	.93	..	.85
23-23.9	1.28	1.28	1.28	1.28	..	1.28	1.28	..	..	.97	1.14	..	..	1.11	..	1.11	1.00	..	.89
24-24.9	1.34	1.34	1.34	1.34	1.34	1.34	1.34	..	..	1.01	1.22	1.02	..	1.22	..	1.22	1.07	..	.93
25-25.9	1.40	1.40	1.40	1.40	1.40	1.40	1.40	..	..	1.05	1.30	1.08	..	1.33	..	1.33	1.14	..	.97
26-26.9	1.46	1.46	1.46	1.46	1.46	1.46	1.46	..	..	1.09	1.38	1.16	..	1.44	..	1.44	1.21	..	1.01
27-27.9	1.52	1.52	1.52	1.52	1.52	1.52	1.52	..	..	1.13	1.46	1.24	..	1.55	..	1.55	1.28	..	1.05
28-28.9	1.58	1.58	1.58	1.58	1.58	1.58	1.58	..	..	1.17	1.54	1.32	..	1.66	..	1.66	1.35	..	..
29-29.9	1.64	1.64	..	1.64	1.64	..	1.64	..	..	1.21	1.62	1.40	..	1.77	..	1.77	1.42	..	..
30-30.9	1.70	1.70	..	1.70	1.70	..	1.70	..	..	1.25	1.70	1.48	..	1.88	..	1.88	1.49	..	..
31-31.9	1.76	1.76	..	..	1.76	..	..	..	..	..	..	1.60	..	1.99	..	1.99	1.56	..	
32-32.9	1.84	1.84	..	..	1.84	..	..	..	..	..	..	1.72	..	2.10	..	2.10	1.63	..	..
33-33.9	..	..	..	..	1.92	..	..	..	..	..	..	1.84	..	2.21	..	2.21	1.70	..	..
34-34.9	..	..	..	..	2.00	..	..	..	..	..	..	1.96	..	..	..	2.32	1.77	..	..
35-35.9	..	..	..	..	2.08	..	..	..	..	..	..	2.08	..	..	..	..	1.84	..	..
36-36.9	..	..	..	..	2.16	..	..	..	..	..	..	2.16	..	..	..	..	..	..	..
37-37.9	..	..	..	..	2.24	..	..	..	..	..	..	2.24	..	..	..	..	..	..	..
38-38.9	..	..	..	..	2.34	..	..	..	..	..	..	2.31	..	..	..	..	..	..	..
39-39.9	..	..	..	..	2.44	..	..	..	..	..	..	2.44	..	..	..	..	..	..	..
40-40.9	..	..	..	..	2.54	..	..	..	..	..	..	..	..	..	..	..	..	..	..
41-41.9	..	..	..	..	2.64	..	..	..	..	..	..	..	..	..	..	..	..	..	..
42-42.9	..	..	..	..	2.74	..	..	..	..	..	..	..	..	..	..	..	..	..	..

This SIGN will tell a motorist you have *two reasons* why he should drive into your station.

1st *You have a motor oil of unexcelled quality at a right price.*

2nd *You have a sound, common-sense method of selling it.*

EVERY Authorized Opaline Dealer receives our Recommendation Index (based on the Sinclair Law of Lubrication) on which are listed cars, trucks, buses and taxis—and showing when the different grades of Opaline Motor Oil should be used. The Dealer asks the motorist how many miles his car has been driven—and then gives the motorist the correct grade of Opaline to fit the degree of wear in his engine, and seal its power.

May we tell you about this successful method of selling *correct lubrication* with the full line of Opaline Motor Oils?

SINCLAIR REFINING COMPANY, INC.

Also Makers of Sinclair Gasoline and H-C Gasoline

45 NASSAU STREET, NEW YORK

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SINCLAIR OILS
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SINCLAIR OPALINE MOTOR OIL
REG. U.S. PAT. OFF.

Seals Power at every Degree of Wear

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Say you saw it in The OIL WEEKLY

TEXAS PANHANDLE
Magnolia Petroleum Company

	March 30 1927
Hutchinson, Carson and Gray counties, all grades	1.25
Humble Oil & Refining Company, Gulf Refining Company and Kay County Gas Company all grades	.95

Gray and Wheeler Counties
Humble Oil & Refining Company

28 to 28.9 gravity	.80
29 to 29.9 gravity	.82
30 to 30.9 gravity	.84
31 to 31.9 gravity	.86
32 to 32.9 gravity	.88
33 to 33.9 gravity	.90
34 to 34.9 gravity	.92
35 to 35.9 gravity	.94
36 to 36.9 gravity	.96
37 to 37.9 gravity	.98
38 to 38.9 gravity	1.00
39 to 39.9 gravity	1.02
40 to 40.9 gravity	1.04
41 to 41.9 gravity	1.06
42 to 42.9 gravity	1.08
43 to 43.9 gravity	1.10
44 and above	1.12

Crane-Upton-Crockett* Counties
Gulf, Humble and Kay County Gas Company

Below 26 gravity	.70
26 to 26.9 gravity	.72
27 to 27.9 gravity	.74
28 to 28.9 gravity	.76
29 to 29.9 gravity	.78
30 to 30.9 gravity	.80
31 to 31.9 gravity	.82
32 to 32.9 gravity	.84
33 to 33.9 gravity	.86
34 to 34.9 gravity	.88
35 to 35.9 gravity	.90
36 and above	.92

*Gulf does not post in Crockett County.

Magnolia Petroleum Company and Kay County Gas Company

Howard County (Chalk Field)	1.43

WYOMING-MONTANA
Wyoming

Byron	1.33
Ferris	1.60
Elk Basin	1.33
Grass Creek	1.33
Rock Creek	1.25
Lost Soldier	.95
Lance Creek	1.33
Mule Creek	1.30
Notches	.65
Big Muddy	1.25
Osage	1.33
Hamilton Dome	.85
Pilot Butte	1.75
Torchlight-Greybull	1.55
Lander	.80
Simpson Ridge	.80
Rex Lake	1.10
South Casper Creek-Poison Spider	1.00

Salt Creek
Midwest Refining Company

29 to 29.9 gravity	1.14
30 to 30.9 gravity	1.16
31 to 31.9 gravity	1.18
32 to 32.9 gravity	1.20
33 to 33.9 gravity	1.22
34 to 34.9 gravity	1.24
35 to 35.9 gravity	1.26
36 to 36.9 gravity	1.28
37 and above	1.30

MONTANA

Sunburst	1.35
Cat Creek	1.33
Lake Basin	2.20

NEW MEXICO

Artesia	1.00
Hogback	1.38

CANADIAN CRUDE

Oil Springs	2.18
Petrolia	2.11

*Bounty on Canadian crude is ¾ cent per gallon, or 26¼ cents per barrel.

LOUISIANA-ARKANSAS
(Standard of Louisiana, Louisiana Oil Refining Company, Gulf Refining Company of Louisiana and The Texas Co.) Homer, Haynesville, Caddo, El Dorado, De Soto and Chrichton.

	March 30 1927
Below 28 gravity	1.10
28 to 28.9 gravity	1.12
29 to 29.9 gravity	1.14
30 to 30.9 gravity	1.16
31 to 31.9 gravity	1.18
32 to 32.9 gravity	1.20
33 to 33.9 gravity	1.22
34 to 34.9 gravity	1.24
35 to 35.9 gravity	1.26
36 to 36.9 gravity	1.28
37 to 37.9 gravity	1.30
38 to 38.9 gravity	1.32
39 to 39.9 gravity	1.34
40 to 40.9 gravity	1.36
41 to 41.9 gravity	1.38
42 to 42.9 gravity	1.40
43 to 43.9 gravity	1.42
44 to 44.9 gravity	1.44
45 to 45.9 gravity	1.46
46 to 46.9 gravity	1.48
47 to 47.9 gravity	1.50
48 to 48.9 gravity	1.52
49 to 49.9 gravity	1.54
50 to 50.9 gravity	1.56
51 to 51.9 gravity	1.58
52 and above	1.60

Atlantic Oil Producing Company posts this same schedule on Homer, Haynesville, and West El Dorado.

Magnolia Petroleum Company has the same posting on Pine Island, Haynesville, Eldorado and Bull Bayou.

STEPHENS
(All Companies)

	March 30 1927
Below 28	1.00
28 to 28.9 gravity	1.02
29 to 29.9 gravity	1.04
30 to 30.9 gravity	1.06
31 to 31.9 gravity	1.08
32 and above	1.10

SMACKOVER
(Louisiana Oil Refining Company, Atlantic Oil Producing Company, and Shreveport-Eldorado Pipe Line Company)

Below 24 gravity	$1.00
24 to 27.9 gravity	1.15
28 to 28.9 gravity	1.17
29 to 29.9 gravity	1.19
30 and above	1.21

Other Companies

Below 24 gravity	1.00
24 and above	1.25
Bellevue	1.25
Jennings	1.15
Vinton	1.30
Edgerly	1.30
Starks Dome	1.30
Urania	1.00
Cotton Valley	1.00
Calion	1.00

Spindle Top Production at Low Point Since Deep Discovery; Drilling Active

Beaumont, Texas. — Spindle Top's deep sand area took another turn upward in daily average early this week with completion of Turnbow Oil Company's Weed 1, for 5000 barrels light oil from slightly below 5000 feet, Tuesday morning. This well followed completion of Gulf's Weed 12 by a day, the latter having made 2500 barrels from 5028 feet Monday. The new production came following the field's drop to 56,563 barrels on March 27.

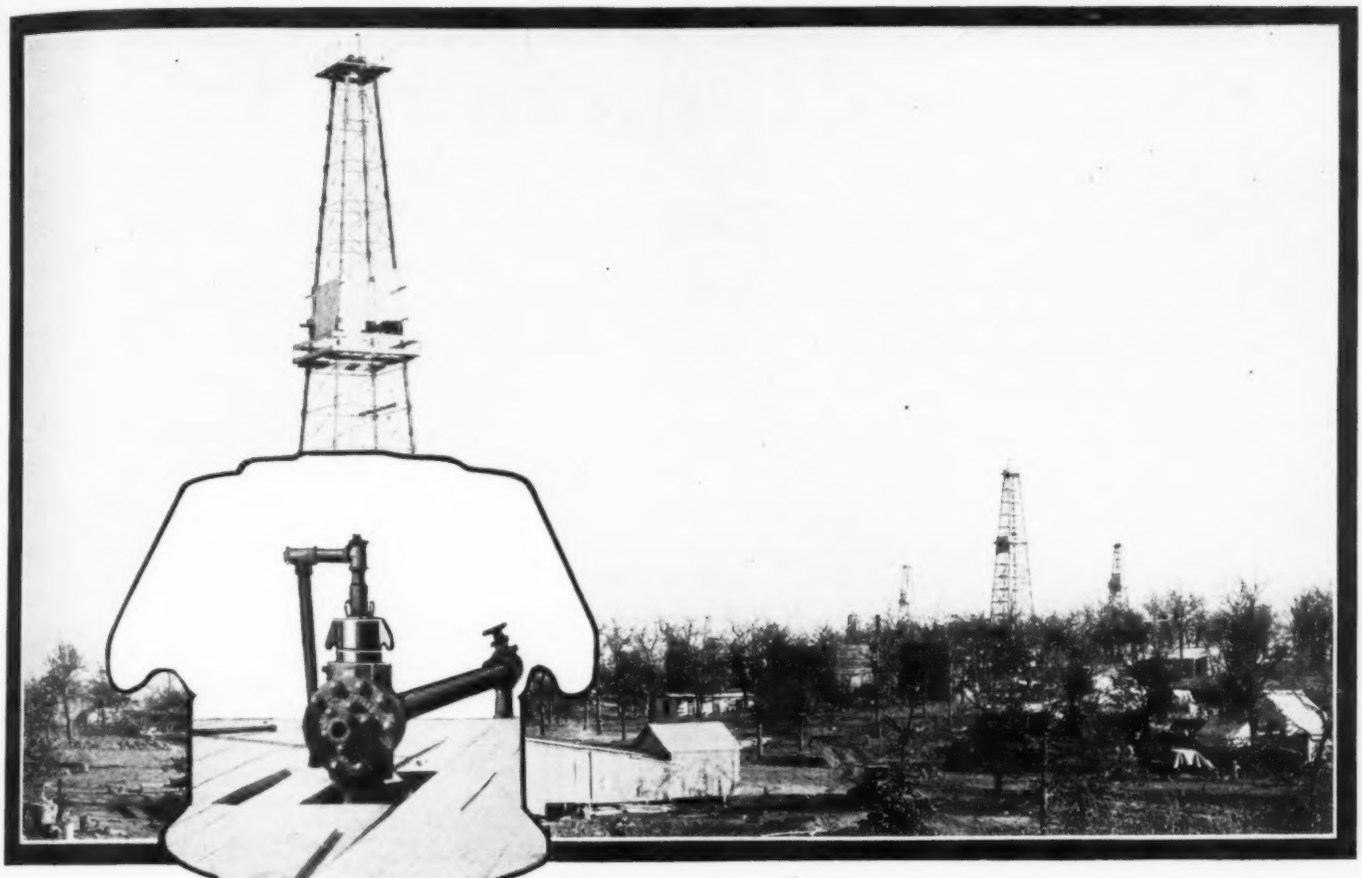
The active territory around Spindle Top's flank production showed a slack in drilling activity following the break in the Coastal crude market due mainly to lease obligations on the south side, near Magnolia's extension strike February 23, on its tank farm site. A total of 38 wells were drilling March 27 including nine wells in the vicinity of Magnolia's Fee 2. The Sun Company has two wells on the Price lease offsetting Fee 2, and two on the McLean lease to the northwest, where drilling has recently been resumed. The Gulf has two wells on the Oakwood lease drilling just north of the Fee 2, and Magnolia's Fee 3 and 4 are drilling as offsets to the producer.

The field's run for March 27 was 56,563 barrels, a low mark since the peak of the deep sand area late in September, 1926. Of this total, Yount-Lee Oil Company had 43,342 barrels, or approximately 75 per cent of the field's output. The March 27 run by company and lease is as follows:

Yount-Lee:	
McFaddin	17,605
Gladys City	15,441
Davis	7,927
Fee	2,356
Trembly	13
	43,342
Gulf:	
Jack-Duff	2,152
Roche	1,630
Oakwood	1,378
Weed	1,101
Mann	189
	6,450
Rio Bravo, T. & N. O.	4,900
Magnolia, Fee	1,286
Atlantic, McLean	306
Paggi Oil Co., Gordon	100
Siess et al, Pierce	80
Unity Oil Co., McFaddin	60
Sun Co., McLean	39
Total	56,563

The 38 drilling wells early this week included Yount-Lee, 14; Sun, six; Gulf, four; Atlantic, four; Magnolia, two; Rio Bravo, two; Turnbow Oil Company, two; and Deep Sand Oil Company, J. O. Davis et al, Hines Oil Company and Walker Oil Company, one well each.

Wildcats on three sides of the field are searching for new deep production. J. O. Davis et al are below 4450 feet in their Gladys 1, located approximately a mile to the west and slightly south of the westernmost production in the deep sand area. On the north side of the dome Hines Oil Company is drilling Roberts 2 below 3000 feet after junking No. 1 at slightly lower than this depth.



Holds Pressure on Air Installations

Protection of any investment is *true economy*. The MILDREN TUBING SUPPORT, on every well, insures *positive tubing safety*.

The MILDREN TUBING SUPPORT suspends tubing any desired distance from bottom of the well. No need for pup joints. No depending on nipples with field-cut threads. Handy for setting up collars when running tubing. Ears allow instant engagement of elevator links. Saves time because operated without wrenches. Packs off fluid, facilitating setting of packer at any depth.

"The Biggest Little Tool Company in The Oil Country"

HINDERLITER TOOL COMPANY
Tulsa, Oklahoma
Manufacturers of and Specialists in Drilling and Fishing Tools

HINDERLITER

Summary of Field Operations for March, 1927

EASTERN STATES

	Completions	Producers	Gas Wells	Failures	Initial Prod.
Ohio	103	58	26	19	1,553
Pennsylvania	127	106	15	6	657
Kentucky	90	74	1	15	2,001
West Virginia	107	32	63	12	383
New York	24	24	..	..	79
Michigan	19	18	..	1	335
Tennessee	4	4	..	..	120
Illinois	6	6	..	..	64
Indiana	9	4	1	4	101
Totals	489	326	106	57	5,293

PENNSYLVANIA

Allegheny	2	1	..	1	200
Butler	10	6	2	2	34
Bradford	77	77	..	..	311
Center-Middle	1	1	..	..	2
Clarion	2	..	2	..	...
Forest	1	1	..	..	2
Greene	17	3	11	3	12
Mercer	1	1	..	..	5
Venango	15	15	..	..	41
Washington	1	1	..	..	50
Totals	127	106	15	6	657

KENTUCKY

Allen	3	2	..	1	8
Barren	16	14	..	2	118
Bracken	1	1	..	..	5
Clinton	3	2	..	1	20
Cumberland	2	1	..	1	25
Daviess	4	3	..	1	12
Estill	13	10	..	3	25
Floyd-Knott	1	..	1	..	...
Johnson-Msgoffin	12	11	..	1	217
Lawrence-Johnson	2	1	..	1	10
Lee-Owsley	4	4	..	..	181
Ohio	14	12	..	2	1,267
Warren	13	12	..	1	112
Wayne	1	..	..	1	...
Wolfe	1	1	..	..	1
Totals	90	74	1	15	2,001

WEST VIRGINIA

Barbour	1	..	1	..	...
Boone	5	..	5	..	...
Braxton	3	..	2	1	...
Cabell	1	..	1	..	...
Calhoun	6	..	6	..	...
Clay	8	7	1	..	26
Doddridge	8	2	6	..	8
Gilmer	10	1	5	4	2
Hancock	1	1	..	..	3
Harrison	2	1	1	..	2
Kanawha	3	2	1	..	8
Lincoln	2	..	2	..	...
Marion	6	1	4	1	10
Marshall	2	..	2	..	...
Mingo	1	1	..	..	10
Monongalia	6	2	4	..	23
Pleasants	4	3	1	..	10
Ritchie	6	1	5	..	10
Roane	13	3	8	2	85
Tyler	6	2	3	1	10
Wayne	1	1	..	..	10
Wirt	1	1	..	..	18
Wetzel	11	3	5	3	148
Totals	107	32	63	12	383

NEW YORK

Allegany	24	24	..	..	79

MICHIGAN

Saginaw	19	18	..	1	335

TENNESSEE

Clay	1	1	..	..	35
Pickett	2	2	..	..	35
Putnam	1	1	..	..	50
Totals	4	4	..	..	120

OHIO

	Completions	Producers	Gas Wells	Failures	Initial Prod.
Ashland	1	..	1	..	...
Athens	6	3	1	2	16
Belmont	1	1	..	..	8
Coshocton	2	..	1	1	...
Cuyahoga	7	..	4	3	...
Guernsey	3	..	3	..	...
Hancock	2	2	..	..	30
Hocking	6	6	..	..	400
Holmes	9	5	3	1	290
Jefferson	4	4	..	..	9
Knox	3	2	..	1	67
Licking	10	9	..	1	409
Lorain	1	..	1	..	...
Medina	2	1	..	1	1
Meigs	1	1	..	..	19
Mercer	2	2	..	..	6
Morgan	1	1	..	..	3
Muskingum	1	..	..	1	1
Ottawa	2	2	..	..	46
Perry	6	5	1	..	177
Sandusky	1	1	..	..	5
Seneca	1	1	..	..	1
Shelby	2	2	..	..	14
Summit	1	..	1	..	...
Washington	17	4	9	4	13
Wayne	4	..	1	3	...
Wood	7	6	..	1	38
Totals	103	58	26	19	1,553

ILLINOIS

Clark	2	2	..	..	41
Crawford	3	3	..	..	15
Wabash	1	1	..	..	8
Totals	6	6	..	..	64

INDIANA

Adams	2	1	..	1	40
Gibson	3	2	..	1	41
Knox	1	..	..	1	...
Pike	3	1	1	1	20
Totals	9	4	1	4	101

CALIFORNIA

Athens-Rosecrans	1	1	..	..	102
Baldwin Hills-Inglewood	1	1	..	..	120
Brea-Richfield	9	9	..	..	3,780
Cat Canyon	..	..	..	..	...
Dominguez	1	1	..	..	100
Elk Hills	1	1	..	..	128
Huntington Beach	14	14	..	..	5,661
Hovey Hills	1	1	..	..	250
Kern Front	2	2	..	..	250
Long Beach	9	7	1	1	1,230
Midway	4	4	..	..	580
Montebello	..	..	..	..	...
Poso Creek	..	..	..	..	...
Rideout Heights	1	1	..	..	140
Seal Beach	9	9	..	..	15,591
South Mountain	1	1	..	..	55
Summerland	..	..	..	..	...
Sunset Heights	2	2	..	..	310
Santa Fe Springs	..	..	..	..	...
Topo Canyon	..	..	..	..	...
Torrance Redondo	2	2	..	..	110
Ventura Avenue	3	3	..	..	13,500
Wheeler Ridge	1	1	..	..	100
Wildcats	2	1	..	1	75
Totals	64	61	1	2	42,082

MOUNTAIN STATES

Wyoming	26	22	..	4	20,385
Montana	5	5	..	..	615
Colorado	10	7	..	3	680
New Mexico	5	3	..	2	185
Utah	1	..	..	1	...
Wildcats	..	..	..	..	...
Totals	47	37	..	10	21,765

COLORADO

Florence	4	4	..	..	270
Fort Collins	2	2	..	..	70
Moffat	1	..	..	1	...
Thornburg Dome	1	..	..	1	...
Tow Creek	2	1	..	1	340
Totals	10	7	..	3	680

NEW MEXICO

	Completions	Producers	Gas Wells	Failures	Initial Prod.
Chaves County	1	..	..	1	...
McKinley County	1	1	..	..	125
Eddy County	..	..	..	..	...
Rattlesnake	..	..	..	..	...
San Juan County	3	2	..	1	60
Totals	5	3	..	2	185

WYOMING

Dutton County	1	..	..	1	...
Fremont County	1	..	..	1	...
Horse Creek	1	..	..	1	...
Lost Soldier	1	1	..	..	300
Quealy	1	..	..	1	...
Salt Creek	21	21	..	..	20,085
Totals	26	22	..	4	20,385

MONTANA

Kevin-Sunburst	5	5	..	..	615

UTAH

Crescent	1	..	..	1	...

KANSAS

Butler	18	13	..	5	1,600
Cowley	8	3	..	5	170
Elk	9	4	1	4	895
Greenwood	41	14	..	27	1,030
Rice	6	5	..	1	567
Sumner	14	8	..	6	5,824
Woodson	3	2	..	1	50
Chase	7	1	1	5	25
Barber	1	..	1	..	...
Osborn	1	..	..	1	...
Marion	2	1	..	1	25
Russell	2	1	1	..	125
Harper	1	..	..	1	...
Reno	2	1	..	1	150
Harvey	2	..	..	2	...
Chautauqua	1	1	..	..	25
Totals	118	54	4	60	10,486

KANSAS PRODUCTION SUMMARY MARCH

Field—	Daily Av.	Total
Florence-Covert	1,900	58,900
Peabody-Elbing	3,837	118,947
Eldorado-Towanda	13,238	410,378
Augusta-Fox Bush	4,650	144,150
Rainbow Bend	2,650	92,150
Russell	3,275	101,525
Greenwood County	41,862	1,297,725
Churchill	15,300	474,300
Other Fields	29,400	711,400
		3,399,475

OKLAHOMA

	Completions	Producers	Gas Wells	Failures	Initial Prod
Carter	14	12	1	1	1,584
Creek	41	22	5	14	12,605
Gardy	27	18	8	1	3,647
Garfield	6	5	..	1	803
Garvin	2	1	1	..	25
Hughes	5	3	..	2	1,135
Kay	22	14	1	6	3,746
Okfuskee	10	2	3	5	957
Okmulgee	33	13	7	13	615
Osage	38	24	3	11	9,062
Pawnee	11	6	1	4	247
Payne	12	8	2	2	1,180
Pittsburg	2	..	1	1	...
Pottawatomie	6	4	..	2	10,229
Seminole	93	71	..	22	80,948
Wagoner	6	..	1	5	...
Stephens	13	5	2	6	242
Tulsa	9	6	..	3	470
Muskogee	7	1	1	5	15
Jefferson	3	..	..	3	...
Marshall	1	..	..	1	...
Rogers	1	..	..	1	...
Comanche	1	..	..	1	...
Logan	2	2	..	..	448
Caddo	2	2	..	..	125
Lincoln	1	1	..	..	105
Total	368	220	38	110	123,188

(Continued on page 58)

Donovan Boilers

and how the acorn was planted

AWAY back yonder, before Hugh Donovan, Jr., set up for himself in 1890, he and his father worked together at repairing boilers. "If the maker of this one had done so and so," we can hear them saying to each other, "we wouldn't be repairing it now."

From 1890 to 1900 the son did a general boiler repair business. Beginning with 1900 his work was almost altogether on boilers used in the oil country. You know a really observant man with an analytical turn of mind, working under such conditions, can learn tremendously valuable things about what is good practice and what isn't, and acquire ideas of his own. And so when Hugh Donovan, Jr., builded his first boiler, he laid the foundation of a magnificent business.

We believe the present plant at Parkersburgh to be the most modern, the best equipped and the best lighted shop of its size in America.

Donovan Boilers are little short of revolutionary. They have absolutely no weak points, with the result that they commonly drill well after well without one cent for upkeep, and at fuel cost so low it's hard to believe.

We like to sell a Donovan Boiler, for it invariably makes a staunch friend. All Frick-Reid Stores are in position to furnish them, either A. S. M. E. Code, or Non-Code. If you prefer to write our Tulsa office we will gladly furnish any details requested.

FRICK-REID
SUPPLY CO.

Tulsa, Okla., Pittsburgh, Pa.
West of the Mississippi, Store Everywhere

AXELSON MACHINE CO., *Sucker Rods, Pull Rods, Plunger Working Barrels (Pumps) etc.*—BEAUMONT IRON WORKS CO., *DREADNAUGHT Rotary Drilling Equipment, Water-Cooled Draw Works, Pumping Hoists, Traveling Blocks, etc.*—CARBIC MFG. CO., *Acetylene Gas Generators and Welding Equipment.*—DONOVAN BOILER WORKS, *Oil Country Boilers and Tanks.*—FRICK-REID SERVICE BELTING, *Rubber Covered and Friction Surface.*—JENSEN BROTHERS MFG. CO., *Pumping Jacks*—NATIONAL TRANSIT PUMP & MACHINE CO., *Power and Steam Pumps.*—J. P. RATIGAN, *Grips, Clamps, Beam Hangers.* JOSEPH REID GAS ENGINE COMPANY, *Gas and Oil Engines, two and four-cycle, Band Wheel and Direct Drive Pumping Powers.*—ROSSENDALE REDDAWAY BELTING & HOSE CO., *"Camel Hair" Belting, Belt Clamps.*—WHITLOCK CORDAGE COMPANY, *Manilla Cordage, Bull Ropes and Cat Lines.*—LAPWELD AND SEAMLESS TUBULAR GOODS.—WALWORTH CO., *Valves, Fittings and Tools for Steam, Water, Gas, Oil and Air.*

OKLAHOMA PRODUCTION SUMMARY
MARCH

Field—	Daily Av.	Total
North Braman	7,337	227,447
South Braman	4,425	137,175
Blackwell	4,000	124,000
Hubbard	5,400	167,400
Thomas	1,700	52,700
Garber	21,850	677,350
Tonkawa	21,550	668,050
Burbank	48,550	1,505,050
Osage (outside Burbank)	34,125	1,057,875
Watchorn	2,738	84,878
Cushing	21,231	658,161
Yale-Jennings	11,975	371,225
Davenport	5,213	161,603
Bristow-Slick	27,275	845,525
North Okmulgee	17,087	529,697
Lyons-Deaner	4,438	137,578
Stroud	1,550	48,050
Cromwell	13,462	417,320
Papoose	7,513	232,903
Wewoka	18,362	569,222
Duncan District	6,800	210,800
Earlsbore	24,700	765,700
Graham	8,975	278,225
Fox	1,887	58,496
Healdton	14,975	464,225
Seminole	283,525	8,789,275
Hewitt	10,450	323,950
Scholem-Alechem	14,825	459,575
Other fiields	63,100	1,956,100
		21,979,555

ARKANSAS

Field—	Completions	Producers	Gas Wells	Failures	Initial Prod.	Monthly Prod.
Bradley	..	..	..	..	...	.....
El Dorado	..	..	..	..	...	183,275
Nevada	2	2	..	..	75	55,025
Lisbon	..	..	..	..	...	150,350
Smackover	23	18	1	4	801	3,450,675
Stephens	..	..	..	..	...	41,850
Urban-Lawson	..	..	..	..	...	.....
Others	..	..	..	..	...	6,200
Wildcats	22	1	1	20	45	.....
Totals	47	21	2	24	921	3,887,375

LOUISIANA

Bellevue	..	..	..	..	...	44,950
Bossier Par.	3	..	..	3	...	.....
Caddo Parish	11	10	1	..	359	455,700
Cotton Val.	..	..	..	..	...	189,875
De Soto-Red River	..	..	..	..	...	124,775
Elm Grove	..	..	..	..	...	22,845
Grant Parish	2	2	..	..	450	.....
Haynesville	..	..	..	..	...	249,550
Homer	..	..	..	..	...	165,075
La Salle Par.	2	2	..	..	200	.....
Morehouse Parish	1	..	1	..	...	.....
Ouachita Parish	2	..	2	..	...	.....
Richland Par.	1	..	1	..	...	.....
Spring Hill	..	..	..	..	...	.....
Urania	..	..	..	..	...	353,400
Webster Par.	1	..	..	..	...	.....
Wildcats	27	1	..	26	100	.....
Totals	50	15	6	29	1,109	1,606,170
La. G. Coast	6	4	..	2	2,250	408,370
La. Totals	56	19	6	31	3,359	2,014,540

LOUISIANA GULF COAST

Edgerly	..	..	..	..	...	36,025
Evangeline	..	..	..	..	...	31,375
Lockport	2	2	..	..	2,200	91,825
Vinton	4	2	..	2	50	166,995
Others	..	..	..	..	...	82,150
Totals	6	4	..	2	2,250	408,370

TEXAS

N. Central	326	217	7	102	35,139	7,343,385
Central and W. Texas	285	192	5	88	42,423	5,087,310
E. Central	11	6	..	5	735	1,344,825
Gulf Coast	60	34	..	26	30,451	4,415,435
SW. Texas	8	3	5	..	85	1,157,810
East Texas	2	..	1	1	...	.....
Totals	692	452	18	222	108,833	19,348,765

GULF COAST

Field—	Completions	Producers	Gas Wells	Failures	Initial Prod.	Monthly Prod.
Barbers Hill	..	..	..	..	...	.....
Batson	5	2	..	3	35	51,525
Big Creek	2	2	..	..	2,950	126,325
Blue Ridge	7	4	..	3	5,000	70,895
Boling	..	..	..	..	...	57,350
Damon Md.	..	..	..	..	...	31,000
Goose Creek	6	4	..	2	483	228,625
High Island	..	..	..	..	...	.....
Hull	6	3	..	3	875	520,025
Humble	..	..	..	..	...	126,325
Orange	4	3	..	1	288	158,475
Pierce Jct.	3	2	..	1	6,600	280,145
Saratoga	2	1	..	1	8	130,575
Sour Lake	7	4	..	3	1,942	169,325
So. Liberty	1	1	..	..	200	116,625
Spindle Top	8	7	..	1	12,000	1,881,295
W. Columbia	1	1	..	..	10	313,475
Others	..	..	..	..	...	153,450
Wildcats	8	..	..	8	...	.....
Totals	60	34	..	26	30,451	4,415,435

SOUTHWEST TEXAS

Duval Co.	2	..	2	..	...	3,100
Kleberg Co.	1	..	1	..	...	.....
Laredo Dist.	4	3	1	..	85	456,075
Luling	..	..	..	..	...	564,975
Lytton Spgs.	1	..	1	..	...	68,975
Medina Co.	..	..	..	..	...	.....
Somerset	..	..	..	..	...	44,535
Others *	..	..	..	..	...	20,150
Wildcats	..	..	..	..	...	.....
Totals	8	3	5	..	85	1,157,810

*Includes Medina and Kleberg Counties.

NORTH TEXAS

Archer Co.	69	36	..	33	3,522	945,875
Baylor Co.	..	..	..	..	...	3,875
Burkburnett	13	9	..	4	312	426,250
Carson Co.	15	12	1	2	2,585*	228,225
Clay Co.	1	..	..	1	...	26,350
Cooke Co.	15	10	..	5	390	.....
Electra	23	11	..	12	800	566,145
Gray Co.	6	6	..	..	920†	242,945
Hutchinson Co.	56	52	4	..	19,190‡	3,463,475
Jack Co.	3	..	..	3	...	21,700
K-M-A and Iowa Park	25	12	..	13	955	145,700
Montague Co.	41	31	1	9	1,450§	398,350
So. Vernon Dist.	24	18	..	6	2,035	423,925
Throckmorton Co.	9	3	..	6	370	122,045
Wheeler Co.	5	2	1	2	1,135¶	52,700
Young Co.	21	15	..	6	1,475‖	274,275
Others	..	..	..	..	...	1,550
Totals	326	217	7	102	35,139	7,343,385

*Includes 19,000,000 feet gas.
†Includes 1,000,000 feet gas.
‡Includes 82,000,000 feet gas.
§Includes 15,000,000 feet gas.
¶Includes 21,000,000 feet gas.
‖Includes 10,750,000 feet gas.

CENTRAL AND WEST TEXAS

Big Lake	2	1	1	..	75*	860,250
Brown Co.	111	75	1	35	18,890†	1,088,875
Callahan Co.	13	2	..	11	15	185,595
Coleman Co.	5	..	..	5	...	51,525
Crane Co.	17	17	..	..	7,565	.....
Crockett Co.	1	1	..	..	160	40,300
Eastland Co.	19	12	3	4	1,780‡	180,575
Howard Co.	11	11	..	..	795	72,075
Jones Co.	2	2	..	..	640	117,725
Mitchell Co.	3	3	..	..	170	126,325
Pecos Co.	..	..	..	..	...	155,375
Palo Pinto Co.	1	1	..	..	5	78,645
Shackelford Co.	44	33	..	11	2,143	445,995
Stephens Co.	6	3	..	3	105§	297,975
Upton Co. ¶	32	30	..	2	9,650	1,364,375
Others	..	..	..	..	...	21,700
Wildcats	18	1	..	17	430	.....
Totals	285	192	5	88	42,423	5,087,310

*Includes 8,000,000 feet gas.
†Includes 2,750,000 feet gas.
‡Includes 21,500,000 feet gas.
§Includes 4,000,000 feet gas.
¶Includes Crane County production.

EAST CENTRAL TEXAS

Field—	Completions	Producers	Gas Wells	Failures	Initial Prod.	Monthly Prod.
Corsicana-Powell	4	3	..	1	535	623,100
Currie	..	..	..	..	...	21,925
Mexia	3	3	..	..	200	343,325
Nigger Creek	..	..	..	..	...	187,925
Richland	..	..	..	..	...	33,325
Wortham	..	..	..	..	...	135,225
Wildcats	4	..	..	4	...	.....
Totals	11	6	..	5	735	1,344,825

Oil From Colorado Well Freezes Up Solid

Denver, Colo.—The oil fraternity in this State continues to marvel at the remarkable properties of the oil recently discovered near Walden, Jackson, where the Continental Oil Company is operating the discovery well, despite the difficulties encountered. The oil and gas come out of the well in the form of slush and soon freeze solid upon reaching the surface. The expansion of certain gases within the gas reduces the temperature to 125 degrees below zero. The oil piles up around the rig like huge chunks of ice. It begins to melt at 55 degrees below zero. Heat applied to the outside of the tanks and lines has little effect on the oil. Raw steam mixed with the oil gradually thaws the oil. The crude is one-half gasoline and is almost as light. The color is light amber. Tests show that it will refine perfectly and the total waste is slightly more than one per cent. The chief difficulty in handling the oil comes in its separation. The separators gradually become clogged with slush and have to be cleaned at short intervals. There is no water in the oil, however. The well was originally rated at 400 barrels per day but it will be much larger when the proper apparatus is installed to care for the crude. Continental will develop the structure extensively during the summer months. The location is more than 8000 feet above sea level and winter drilling was very difficult.

Pure Oil Texas Office Moves to Ft. Worth

Fort Worth, Texas.—The removal of Texas headquarters of the Pure Oil Company from Mexia to Fort Worth will take place late next summer as result of the company having taken a lease on two floors of the Petroleum building. This building is scheduled for completion by August 1, and will be filled entirely by oil companies and allied concerns. R. O. Dulaney, president of the Fort Ring Oil & Gas Company, and J. P. Johnson, independent operator, are the principal owners of the new structure. B. S. SoRelle is general manager of the Pure Oil Company's Texas operations.

COMPLETIONS FOR PAST WEEK IN U.S. FIELDS

EASTERN STATES

PENNSYLVANIA

Company, Well and Location	Initial Production Bbls.	Depth
Bradford Field—		
South Penn Oil Co., Weston Jr. 100	4	....
Bingham 533, tract 86	3	....
Bingham 390, tract 3	3	....
Bingham 151, tract 37	2	....
Bingham 576, tract 118	2	....
Fee 108	3	....
Whipple 132	2	....
Jones 221	2	....
Lee-Hallock 100	2	....
Smith 138	2	....
Middaugh 52	2	....
Rounds 59	3	....
Kendall 60	2	....
Piper & Lloyd, Ekas 28	2	....
Forest Oil Co., Porter 1	3	....
Fisher 4	3	....
Forest Pet. Corp., Forest 1 A 403	4	....
J. M. Kauffman, Campbell 1	4	....
S. H. Elder & Co., Elder 20	4	....
Penn Oil P. & R. Co., Fee 3	2	....
Hamlin & Bovaird, Rew 36	3	....
Maxwell & Co., Franchot 16	3	....
McDowell & Andrus, Bingham 109	3	....
Kahle Oil Co., Norton 1	3	....
Linwood Oil Co., Germer 2	3	....
F. S. Boquin, Boquin 3	3	....
Devore & Potter, Russell 1	3	....
W. E. Williams, Williams 22	3	....
Towne & Melvin, Franchot 8	3	....
M. A. Dennis & Co., Dennis 3	3	....
Park Estate & Co., Park 12	3	....
Park 13	3	....
McSweeney & Co., Lawton 94	3	....
V. Mongillo, Mongillo 6	3	....
Venango County—		
Scott & Graham, Wright 37	2	....
Wright 38	2	....
Richland O. & G. Co., Criswell 3	2	....
Midland Oil Corp., McNellie 30	2	....
R. L. Lamberton, Gearing Hrs. 1	2	....
G. H. Torrey, Cox 7	2	....
White & Corbett, Fee 3	2	....
Butler County—		
S. Sherwin, Elliott 1	5	....
Stevenson O. & G. Co., Dambach 2	¶1½	....
Mureland, Kepple & Co., Black 1	2	....
Hinchberger & Co., Paul 1	*	....
E. H. Hutchinson, Peffer 3	*	....
Clarion County—		
Apollo Gas Co., Minich 1	¶½	....
J. A. Brown, Truitt 1	¶½	....
Baynham 4	¶1½	....
Greene County—		
Carnegie Nat. Gas Co., L. Wright 2	30	....
Renner O. & G. Trust, E. Renner 1	¶1	....
S. W. Meals & Co., K. Hogan 6	¶1	....

NEW YORK

Company, Well and Location	Initial Production Bbls.	Depth
Allegany County—		
J. C. Minderler Jr., Minderler 1	2	....
Leland Oil Co., Leland 5	2	....
M. J. Crowley & Co., Coast 2	3	....
F. L. Gorton & Co., Empire 1	2	....
W. Weinang, Weinang 1	2	....
J. E. LeSur & Co., Le Suer 4	2	....
Albert Oil Co., Albert 1	2	....
Hill & Son, Hill 1	2	....
M. E. Sloan Est., Albert 1	2	....
Edward Himgefore & Co., Kinley Oil 1	2	....
McDivitt & Co., McDivitt 5	2	....
R. J. Dermott, Dermott 1	2	....

WEST VIRGINIA

Company, Well and Location	Initial Production Bbls.	Depth
Ritchie County—		
Reno Oil Co., J. L. Mulenax 3	3	....
C. S. Morris, Hendershot & Hardman 2	¶½	....
Carnegie Nat. G. Co., C. B. Reed 2	¶1	....
Wright Oil Co., H. O. Prather 2	¶¶1	....
Marion County—		
Owens Bottle Mach. Co., M. L. Straight 1	*	....
Hope Nat. Gas Co., A. H. Billingsby 1	*	....
Laurel Dev. Co., E. J. Mahone 1	¶2	....
C. C. Wolfe, Wolfe 1	¶2	....

SUMMARIZED REVIEW OF FIELD RESULTS

State—	Completions This Week	Completions Last Week	Producers This Week	Producers Last Week	Gas Wells This Week	Gas Wells Last Week	Failures This Week	Failures Last Week	Initial Production This Week	Initial Production Last Week
Arkansas	5	13	2	7	3	1	..	5	226	214
California	27	17	26	16	..	1	1	..	17,685	9,392
Colorado	2	2	1	2	..	..	1	..	140	60
Indiana	5	2	2	1	..	..	3	1	170	20
Illinois	2	2	2	2	..	..	..	..	115	16
Kansas	33	39	18	25	4	..	11	14	3,100	4,640
Kentucky	6	18	5	15	..	..	1	3	18	316
Louisiana *	13	19	4	6	1	5	8	8	1,945	1,526
Michigan	5	4	5	3	..	..	..	1	535	50
Mississippi	..	..	..	..	..	..	..	..	....	....
Montana	1	3	1	3	..	..	..	..	60	135
New Mexico	1	1	1	1	..	..	..	..	100	25
New York	12	15	12	15	..	..	..	..	25	59
Ohio	58	16	36	7	17	2	5	7	1,543	100
Oklahoma	80	90	39	56	6	14	35	20	21,223	39,576
Pennsylvania	52	72	44	63	6	6	2	3	147	295
Tennessee	2	2	2	2	..	..	..	..	300	35
Texas *	169	232	112	153	5	5	52	74	38,680	18,635
Utah	..	1	..	..	..	..	..	1	....	....
West Virginia	32	27	7	10	15	14	10	3	68	68
Wyoming	4	6	4	5	..	..	..	1	6,650	7,925
Totals	509	581	323	392	57	48	129	141	92,730	83,087
Increase this week	..	..	..	..	9	..	..	..	9,643	....
Decrease this week	72	..	69	..	..	..	12	..	....	....

*Gulf Coast omitted this week.

Company, Well and Location	Initial Production Bbls.	Depth
Harrison County—		
Hoffmier & Deegan, J. W. Williams 1	¶1½	....
Clarksburg L. & H. Co., Homer Custer 86	¶1¼	....
Hope Cons. & R. Co., Sullivan 1	¶¼	....
Pleasants County—		
Frank Dunn & Co., McTaggert 1	*	....
Phelps Farm Oil Co., Phelps 1	*	....
Howard Hall & Co., Adams 1	*	....
Clay County—		
Stephenson Oil Co., H. Scholl lot 1	20	....
So. Penn Oil Co., Stockley 52	15	....
Doddridge County—		
G. B. Travis, L. W. Robinson 1	8	....
Hope Con. & R. Co., Ellibritt 9	15	....
Roane County—		
Noble Beatty & Co., Smith Hrs. 1	5	....
United Fuel Gas Co., P. Jarvis 1	¶2	....
Calhoun County—		
Ohio Fuel Oil Co., Stevens 1	¶2½	....
United Fuel Gas Co., F. H. Norman 2	¶2¼	....
Braxton County—		
Pure Oil, R. H. Bourne 1	*	....
H. C. Zogg & Co., W. N. Cutlip 1	*	....
Wirt County—		
Roberts Bros., Rathbone 151	2	....
Gilmer County—		
Hope Nat. Gas Co., A. Vanhorn 1	¶1½	....
Kanawha County—		
Ohio Fuel Oil Co., Pauley 1	¶2	....
Marshall County—		
Cameron H. & L. Co., Quigley 1	¶2	....
Wetzel County—		
Manufacturers L. & H. Co., Johnson 2	¶2½	....
Mingo County—		
Public Gas Corp., Closterman Est. 13	*	....
Monongalia County—		
Philadelphia Gas Co., Core 1	*	3200
Cabell County—		
Ortman & Shipe, Fee 1	*	3325

KENTUCKY

Company, Well and Location	Initial Production Bbls.	Depth
Ohio County—		
Panther Creek O. Co., Miller 19	5	....
Chicago Pet. Synd., N. Brown 5	10	780
Wood Oil Co., J. N. Bartley 7	*	700
Allen County—		
Coatsworth & Harley, W. H. Reed 7	1	275
Riley Hunt, R. Hunt 5	1	318
Warren County—		
A. B. Hudson, Atty, Jas. Deathridge 3	1	1028

TENNESSEE

Company, Well and Location	Initial Production Bbls.	Depth
Clay County—		
Cumberland Valley Oil Co., B. Langford 2	100	420
Clark-Hill Oil Co., Gray 1	200	....

SOUTHEASTERN OHIO

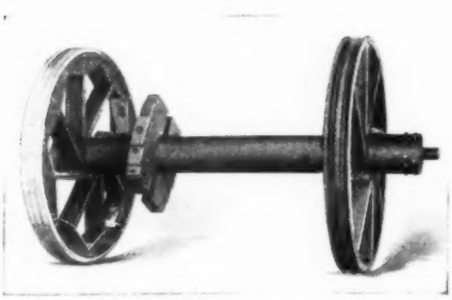
Company, Well and Location	Initial Production Bbls.	Depth
Belmont County—		
Natural Gas Co. of W. Va., Silas Durig 2	45	....
Crouch & Co., G. Christie 1	2	....
Washington County—		
McTaggart & Co., C. M. White 6	5	1853
Joe Kiggins, G. W. Green 1	¶¾	....
Carroll County—		
Eaton & Co., W. Harding 4	15	....
Tuscarawas County—		
Stillwater O. & G. Co., Wolf 1	*	....

CENTRAL OHIO

Company, Well and Location	Initial Production Bbls.	Depth
Guernsey County—		
Ohio Fuel Sup. Co., Fulton 1, tr. 2	225	....
Fulton 2, tr. 2	290	....
McKee 1	¶3½	....
Ohio Oil Co., Gibson 1	¶5	....
Speer & Co., 3	¶6	....
Logan Gas Co., Booth 1	¶4	....
Grim 1	¶4	....
Harold Pasco, McFadden 1	20	....
Pollock Oil & Gas Co., Knight 1	¶3	....
Pure Oil Co., Udell 1	¶3	....
Leonard Oil & Gas Co., White & Co. 3	¶3	....
Moore & Miller, Taylor Hrs. 2	280	....
Wittmer Co. Trust., Dedrick 2	50	....
Cambridge Gas Co., Brill 2	¶4	....
Licking County—		
Roulton Bros. & Co., Charles Fisk 1	15	....
O. W. Zeink & Co., Cooperrider 1	3	....
North Fork Oil Co., McKinney 36	5	....
McKinney 37	5	....
Edward H. Everett Co., F. L. McKee 2	105	....
S. C. Brown, Noland 4	30	....
Colgan Drilling Co., Haskins 1	50	....
Leonard Oil & Gas Co., Myers Hrs. 12	13	....
Shaffer & Co., Chaney 8	10	....
Brown & Co., Little Hrs. 3	5	....
Midland Oil Corp., Cooperrider 4	5	....
Moore & Adams, Wolfe 7	5	....
Holmes County—		
Ohio Oil Co., Unknown 4	¶½	....
Reno Oil Co., D. Kyser 1	15	....
D. Kyser 2	*	....
Empire Gas & Fuel Co., Steele 2	260	....
Meigs County—		
Pure Oil Co., A. Salser 2	3	....
Barneby & Frick, L. Genheimer 1	2	....
Dailey Oil Co., G. Hysell 1	2	....
Perry County—		
Larmer & Schull, Milligan 1	10	....
Mideast Oil Co., Ardrey 5	¶½	....
Pure Oil Co., Kelly Hrs. 1	*	3368
Medina County—		
E. R. Edson Sons Co., Packard 20	1	....
Chemical Oil & Gas Co., Law 1	¶1	....

Flange Construction
Rivets hold flange securely. Angle reinforcements give additional strength to spokes. Wheels furnished for all shaft specifications.

Moore Steel Tug Rim
One piece, double V groove, rolled steel tug rim. Diameter 7'. For wooden band wheels.



Moore Steel Bull Wheel
Heavy shaft, shrunk and riveted on gudgeons. One piece double V groove tug.

Moore All Steel Rig

LEE C. MOORE & COMPANY, *Inc.* PITTSBURGH · TULSA

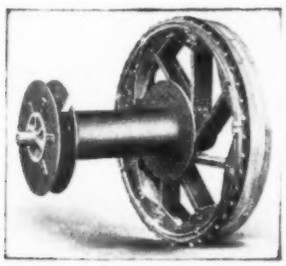
Established 1907

Say you saw it in The OIL WEEKLY

is the MOORE STEEL BAND WHEEL

THERE is hardly any wear-out to a Moore Band Wheel. Year after year, it stands up under the most severe service. Steel plate rims; rolled steel tug rim; rolled steel channel spokes; heavy cast flanges, riveted on; one inch face wood cants. Wheels are stocked in 10′, 11′, and 12′ diameter sizes with 12″ and 15″ face. The Moore steel band wheel has strength built in to stay.

World Wide Service For Twenty Years



Moore Steel Calf Wheel

Extra heavy steel pipe shaft, shrunk and riveted on gudgeons. Conforms to A. P. I. dimensional standards. Channel steel spokes, bolted tangent to shaft.

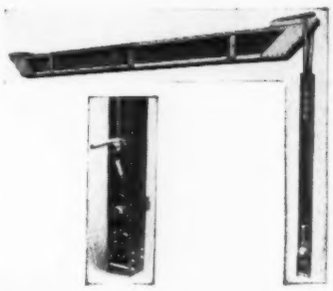
Moore Steel Walking Beam

Built for severe service. I beam type, heavily reinforced. Supplied with 24′, 25′ and 26′ working centers, and for all makes and sizes of saddles.

Moore Steel Pitman

Pat. App. For.

Self-aligning bearing, easily opened or closed by lever. Toggle action prevents opening without direct pull on lever. Made for all sizes and makes of wrist pins and stirrups. Used with wood or steel walking beams.



EQUIPMENT

DALLAS, TEXAS HOUSTON, TEXAS WICHITA FALLS, TEXAS ISOM, TEXAS PARKERSBURG, W. VA.
CASPER, WYO. SHREVEPORT, LA. EL DORADO, KAN. EL DORADO, ARK.

Company, Well and Location	Initial Production Bbls.	Depth
Empire Gas & Fuel Co., White 1..	¶½	....
Hocking County—		
Griffin Prod. Co., Mowery 3.....	25	....
Hope Cons. & Ref. Co., Triton 7..	*	....
Vinton County—		
Bode & Co., Walburn 1	5	....
T. & W. Oil Co., Queen 3.....	3	....
Cuyahoga County—		
Logan Gas Co., Elliott 2 .....¶3¼		....
Dempsey & Daugherty, Kinkler 1 ..¶1¾		....
Ashland County—		
Ringler & Co., Shaw 1 .....¶2¼		....
Athens County—		
State Oil & Gas Co., State Lands 5	10	....

NORTHWESTERN OHIO

Auglaize County—		
J. L. Fee, Weiter 1	5	1217
H. F. Kelly & Co., Harshbarger 3..	*	1211
Wood County—		
John Geldin & Co., C. Geldin 6....	11	1253
Mercer County—		
Edward Anderson, Fisher 2	5	1219
Hancock County—		
J. W. King & Co., King lot 1.....	3	....

INDIANA

Daviess County—		
Hartman, Sargent & Co., Colbert 1	120	1160
Thorn Oil & Gas Co., Wonders 1..	*	1430
Pike County—		
H. Skidmore & Co., Beck 3.....	50	1347
Gibson County—		
Bell Bros., Thompson 1	*	1314
Warrick County—		
Sunlight Coal Co., Watt 1	*	1428

ILLINOIS

Wabash County—		
J. S. Young Jr. & Co., Alka Hrs. 4	75	1484
Clark County—		
W. C. Turner & Co., Baker 3.....	40	1598

MICHIGAN

Saginaw County—		
J. & S. Dev. Co., Clark & Schaefer, Streets 1	25	1834
Schwink Oil Co., Sparling 1	20	1825
Sun Co., Nuerminger 2	20	1842
John Stelzreide 2	20	1850
Ferdinand Stelzreide 1	450	2300

MOUNTAIN STATES

WYOMING

Salt Creek—		
Wyoming Asso. Oil Corp., 18L, se 35-40-79	450	2520
36, ne 23-40-79	100	1155
Wyoming Oil Field Co., 24L, se 23-40-79 4000		2462
Midwest, 4L, sw 35-40-79 2100		2340

COLORADO

Moffat—		
Texas Prod. Co., 9K, 33-5-91	*	4025
Florence—		
Continental, 582, sw 35-18-70	140	903

NEW MEXICO

Artesia—		
Ohio, 8TA, 28-18-28	100	2200

MONTANA

Kevin-Sunburst—		
Fulton Oil Co., 21, nw 31-35-1 ...	60	1450

KANSAS

Butler County—		
Rogers et al, Drum Bitler 13, nec sw nw 29-26-8	90	2704
Magnolia, Blakeman 4, sec ne ne 4-28-6	220	3081
Roth et al, Hanna 11, nec sw se 33-29-8	15	2118
Rogers et al, Drum Bitler 2, sw nw ne 31-26-8	*	2750
Abel et al, Morti 1, swc nw ne 18-28-7	*	2777
Preston et al, Lipps 4, c nw se 30-18-7	*	1259
Chase County—		
Neibert et al, Lipps 3, c nw sw 29-18-7 .....¶1½		1138
Empire, Lipps 8, c nw nw 32-18-7..	¶2	1109
Cowley County—		
J. A. Hull, School land 4, nec nw se 15-32-4	30	2428
Roth et al, Townsite 1, swc ne 22-32-4 .....¶6½		2291
Arkansas, Brown 3, nec se sw 6-32-5	90	2347
Neely, Bell 1, c nw ne 5-23-5.....	¶2	625
Elk County—		
Union Gas Corp., Leffingwell 7, sec ne ne sw 14-31-10	250	1634
Leffingwell 9, nec se sw 14-31-10.	300	1646
Greenwood County—		
Sinclair, Browning 53, c e½ se 19-22-10	125	2372
Manhattan, Sheppard 3, se nw se 2-22-10	35	2102
Sinclair, Browning 54, c w l nw sw 20-22-10	125	2340
Roxana Pet., Hood 1, se sw se 14-22-11	170	1873
Skelly, Wick 19, ne sw nw 27-22-11.	110	1966
Darby et al, Boles 2, se nw sw 10-22-11	75	1810
Empire, Fankhouser 1, ne nw ne 36-22-11	150	2181
Haverhill et al, Inthrum 17, c n l s½ se 4-23-13	40	1623
Kinney et al, Hull 8, sec ne nw 10-26-8	25	2465
Simmons et al, Luthi 2, ne se sw 29-22-13	*	....
Luthi 3, sw se sw 29-22-13	*	....
Sullivan et al, Schwab 1, c w l sw ne 3-23-12	*	1875
Jennings et al, Whipple 1, nec se 30-25-11	*	2001
Roth et al, Riley 2, c nw se 2-26-11	*	650
Sumner County—		
Roxana, Wiles 1, sw nw ne 25-31-2	800	1905
River Bed 3, se sw nw 25-31-2....	450	1909
Amerada, Everts 1, sw se sw 24-31-2	*	2830
Lyon County—		
Schwarz et al, Jones 3, nwc se se 31-21-12	*	2020
Saline County—		
Brown et al, Sheddon 1, sec 26-15-2	*	3592

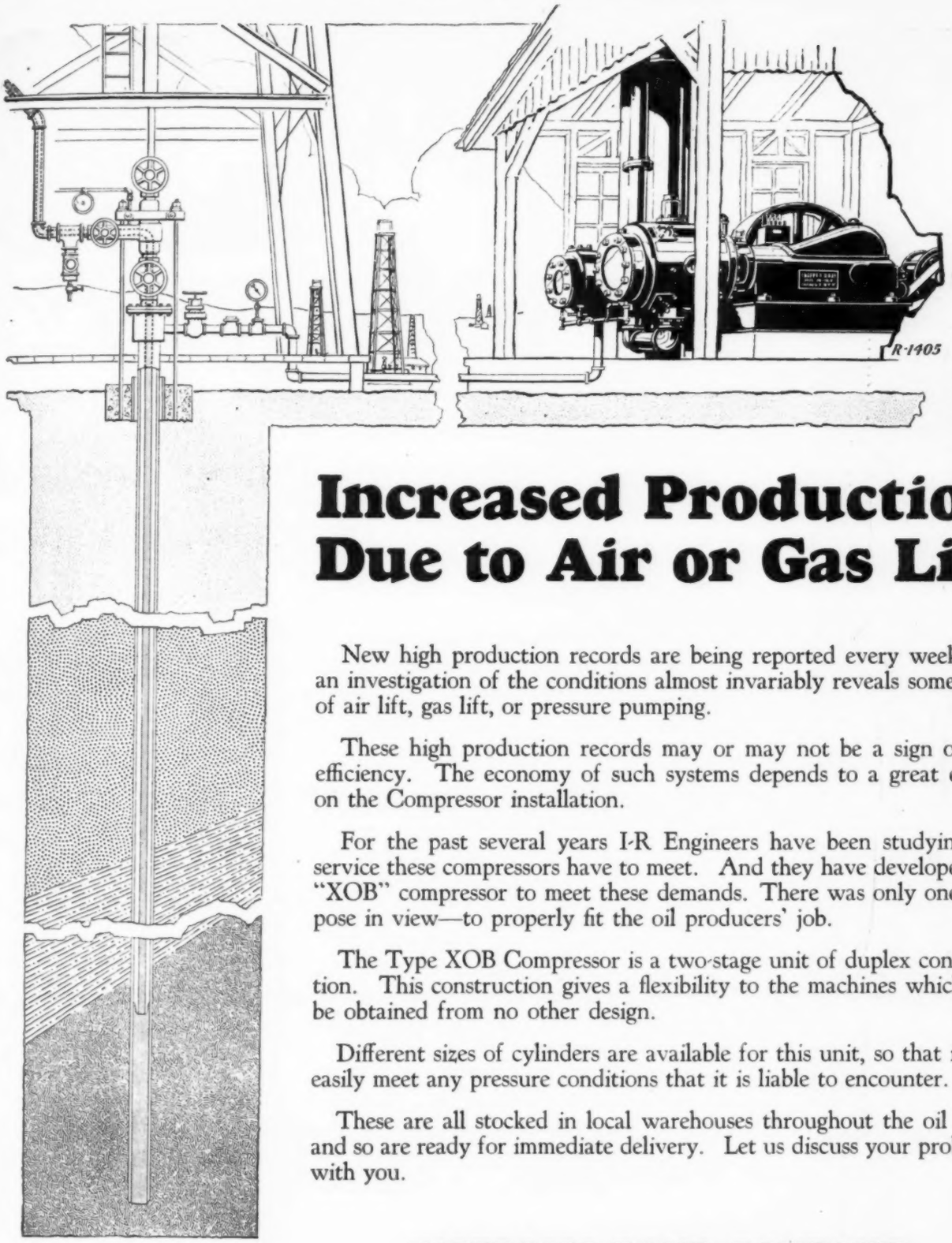
OKLAHOMA

Caddo County—		
Gorton Trust Co., Wade 7, nw se sw 2-5-9	180	2400
Creek County—		
Cumberland, Meyer 3, c w l sw sw 18-17-11	20	1872
Skelly, Yellowhead 3, ne nw sw 32-17-10	250	2711
J. H. Wright, Tahkaney 13, ne nw se 24-17-10	25	2424
Selby, Fife 1, ne 28-18-11	*	2584
C. L. McMahon, Gooden 1, c w l sw ne 31-19-9	*	3296
Williams et al, Sizemore 1, nw ne 5-18-12	*	2356
Kolb et al, Townlot 1, lot 23, blk 24, sw nw se ne 5-18-12	*	2282
Savoy's Townlot 1, lot 46, blk 9, ne se ne ne 6-18-12	*	2270
Sunray et al, Townlot 1, lot 17, blk 24, sw ne se ne 6-18-12	*	2277
The Texas Co.'s Johnson 1, nw ne sw 2-17-10	*	3280
McCullough's Johons 1, nw se 4-17-10	*	3365
Continental, Charcotenne 1, ne nw se 9-17-10	*	2975
O. M. Irelan, Unallotted 2, ne sw 11-17-10	*	2077
Kurell, Davis 7, nw sw sw 11-17-11	*	1700
Cumberland, Berryhill 1, c e l nw se 18-17-11	*	2898
C. G. Tibbins, Herrod 4, ne nw se 25-15-8	*	2939
T. C. M., Peters 1, ne sw nw 23-16-8	*	490
J. B. Grieves, Ashbury 1, se sw sw 1-19-8	*	2919
Grady County—		
Carter, Dolen 1, nw se nw 16-3-5..	25	1773
Watchorn, Pettitt 3, nw se 11-4-8 ..	¶22	2429
Carter et al, Tucker 1, ne se 21-4-6	*	3016
Kay County—		
Ostot et al, Slocum 1, nw 16-27-1 ..	¶4	3451
Carter et al, Shimp 3, ne se sw 17-29-1	212	2327
Mid-Kansas, Day 1 ne w se 20-29-1	*	....
Marland, Van Winkle 1, se nw 30-27-2	*	....
Muskogee County—		
W. R. Sommerville, Monday 1, nw se ne 17-15-17	150	1442
Jolly-Ogg's Meagher 5, se sw ne 32-15-18	*	1978
Okfuskee County—		
Atlantic, Fite 2, ne nw 7-10-12	¶11	2630
Kingwood, Barnett 1, ne nw 4-10-11	*	2920
Morgan et al, Lockhart 2, nw ne nw 19-10-11	*	3725
Okmulgee County—		
Lakeside, Porter 1, ne 34-13-11	25	2490
Stout, Mayfield 4, c sw sw 20-16-14	350	1654
Pine et al, Bighead 3, sw ne se 9-15-12	15	2656
Johnson's Marsey 1, nw 15-15-12 ...	50	2649
Elm, Doyle 3, c s l ne sw 28-14-14	12	1914
Selby, Flint 7, c nw se 26-14-14 ...	6	1024
The Texas, Bruner 14, c s l sw se 16-15-14	¶6	1730
Osage County—		
W. S. Mitchell, 10, se nw se nw 7-21-9	75	596
M & T, 3, nw se sw 34-23-9	5	1029
The Texas Co., 4, sw nw sw 29-25-8	40	2301
I. T. I. O. Co., 362, ne se nw sw 27-25-8	¶2	629
I. T. I. O. Co., 350 ne sw sw 27-25-8	¶6	1013
Skelly, 9, se sw nw 28-26-6	125	2992
Delmar's 2, sw ne se 23-27-11	15	1080
Carter, 3, ne 33-27-6	60	2925
Phillips Pet. Co., 8, ne se sw 7-27-6	70	2990
Knupp, 1, nw se se 30-27-12	*	1778
Galt-Browne, 1, ne sw 8-26-7	*	2915
Mid-Continent, 2, sw 16-23-10	*	2500
Pawnee County—		
Magnolia, Vogler 1, sw ne ne 32-20-6	45	3379
Twin State, Sallee 1, nw se 32-20-6..	65	3400
Payne County—		
Twin State, Garr 2, ne 22-19-5.....	5	2834
Pottawatomie County—		
Pierece et al, Talley 1, sw nw 19-7-4	100	3865
Seminole County—		
T. B. Slick, Cudjo 1, nw se sw 35-9-6 3060		4174
I. T. I. O. Co., Bowlegs 7, se ne se 26-9-6 900		4096
Carter, Killing 2, ne se nw 23-9-6.. 1315		4068
Mid-Continent, Tayocke 6, nw se sw 24-9-6	50	4125
Independent et al, Long 4 nw sw ne ne 32-8-8	65	4137
Carter, Walker 1, ne sw se 15-8-6..7005		4055
Empire, Lacey 1, se nw sw 14-8-6..5657		4057
Gypsy, Frazee 1, sw ne se 36-9-6..	30	4193
T. B. Slick, Franke 4, sw ne 35-9-6.2500		4110
Carter, Killing 3, nw sw se 14-9-6. 800		4121
Mid-Cont., Rentie 12, ne se 14-9-6..	45	4313
Carter, Davis 3, se ne ne 4-9-6 2715		4357
Frazier 2, sw nw nw 3-9-6 2685		4365
Amerada, Anderson 1, nw 15-9-5 ...	*	4278
McGraw et al, Anderson 2, ne nw sw 15-9-5	*	4332
Carter, Billy Street 1, se ne nw 30-7-8	*	4476
Gypsy, Frazee 1, sw ne sw 36-9-6...	*	4466
I. T. I. O. Co., Burden 1, nw sw sw 23-8-6	*	....
Tulsa County—		
Superior, McKee 7, c w l sw sw 6-19-10	80	2009
Edwards et al McIntosh 1, sw se 7-18-14	*	2067
W. H. Holmes et al, Couch 1, c w l sw nw 11-17-13	*	1956
Wagoner County—		
Ted Ray, McIntosh 3, nwc se se 4-17-16	196	706
Mitchell, Smith 4, c n l sw ne 2-16-16	*	1506
Lincoln County—		
Amerada et al, Hemming 1, nw sw se 34-15-6	*	4478
Carter County—		
Max Westheimer, Simpson 1, nw sw 26-2-2	*	1205
Comanche County—		
Magnolia, Jennings 1, nw ne 10-3-10	*	4405

CALIFORNIA

Seal Beach—		
Associated, Hellman 2 1600		4456
Byrant 2 865		4340
Marland, McGrath-Selover 4.....1500		4769
Standard, No. 8 2070		4705
No. 9 1856		4730

(Continued on page 84)



Increased Production Due to Air or Gas Lift

New high production records are being reported every week, and an investigation of the conditions almost invariably reveals some form of air lift, gas lift, or pressure pumping.

These high production records may or may not be a sign of real efficiency. The economy of such systems depends to a great extent on the Compressor installation.

For the past several years I-R Engineers have been studying the service these compressors have to meet. And they have developed the "XOB" compressor to meet these demands. There was only one purpose in view—to properly fit the oil producers' job.

The Type XOB Compressor is a two-stage unit of duplex construction. This construction gives a flexibility to the machines which can be obtained from no other design.

Different sizes of cylinders are available for this unit, so that it can easily meet any pressure conditions that it is liable to encounter.

These are all stocked in local warehouses throughout the oil fields and so are ready for immediate delivery. Let us discuss your problems with you.

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Say you saw it in The OIL WEEKLY

A NEW JON

not only *NEW* but

Forged Box and Pin in one continuous piece. Joints to API specifications.

A NEW STEEL

highly resistant to fatigue –

After three years of continuous tests we firmly believe this is the best Sucker Rod yet produced.

It's so good we believe many users of Double Pin Sucker Rods—after a trial will feel that they will do well to—"*do away with one-half the joints in a string.*"

NOT A NEW EXPERIMENT

by inexperienced Sucker Rod manufacturers, but a NEW ROD made by the world's oldest STEEL SUCKER ROD COMPANY.

THE S. M. JONE

TOLEDO, OHIO ~ 602 WR IGH

Say you saw it in The OIL WEEKLY

ONES ROD

but DIFFERENT!

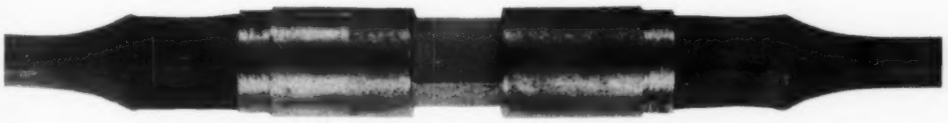
TABLE OF SPECIFICATIONS

Size Rod	5/8"	3/4"	7/8"
Pin	15/16"	1-1/16"	1- 3/16"
Collar	1-3/8"	1-1/2"	1-11/16"
Square	15/16"	1"	1- 1/16"

ORDINARY STEEL	THIS SPECIAL SUCKER ROD STEEL
Elastic Limit, 50,000 lbs. per sq. in.	71,000 lbs.
Tensile Strength, 100,000 lbs. per sq. in.	114,000 lbs.
Elongation, 25%	56%
Red. in Area, 45%	56%
FATIGUE VALUES, 20,000	**50,000**

NOTE—An increase of **42%** in elastic limit, but a **150%** increase in Fatigue Resistance.

If your dealer can't supply you, write us — or get in touch with any of our field men



ALSO MADE IN OUR FAMOUS GIANT DOUBLE PIN— WITH THE STRONGEST COUPLING

NES COMPANY

IGHT BLDG., TULSA, OKLA.

Say you saw it in The OIL WEEKLY

PERMITS GRANTED FOR NEW WELLS

WEEKLY COMPARISON OF NEW WELLS

Following is a condensed table giving a comparison of permits or locations made for new wells during the past year in Kansas, Oklahoma, Arkansas, Louisiana, Texas, California and the Mountain States:

	Week Ending Mar. 25	Previous Week	Total This Month	Total This Year	This Week Last Year	This Month 1926	Total Same Date 1926	Year Total 1926
Arkansas	5	12	47	117	31	111	349	910
California	64	26	144	377	41	135	531	1,273
Louisiana	17	15	66	127	29	145	302	1,318
Kansas	20	19	94	365	55	165	571	1,745
Oklahoma	75	79	308	1,193	114	459	1,539	5,165
Texas	209	240	968	2,981	234	882	3,039	12,158
Mountain States	18	25	64	171	....	....	....	....
Total	408	416	1,691	5,331	504	1,897	6,331	*22,599

*Mountain States omitted.

TEXAS

Archer County—Staley, Wynne & Co., Wilson Bros 1, blk 2, D. C. S. L. sur, 150 ft to s and w lines. American Ref. Co. & Burleson & Chenault, Turbeville 13, blk 150, R. Carson sur, 150 ft to w and 185 ft to s line. L. T. Burns, Turbeville 11D, No. 142, R. Carson sur, 300 ft e of 10. Turbeville 4E, No. 124, J. W. Harris sur, 150 ft to s and w lines. Mid-Kansas, Lowe 8, S 3, S. R. Crawford sur, 750 ft to e and 450 ft to s line. Staley, Wynne & Co., Cranfill 1, S 22, F. Rodemeyer sur, 150 ft to s and w lines. Barnsdall, Haley 1, S 15, blk 4, H&TC sur, 150 ft to s and e lines. Martin 1, blk 26, D. C. S. L. sur, 150 ft to n and w lines. Russell & Wilson, Prideaux 7, A. Rohus sur, 300 ft e of 6; 8, 150 ft to n and e lines. Harrey Hines, McCrory G1, blk 116, Harris sur, 150 ft to s and e lines. Chancellor 1, W. A. Tucker sur, 150 ft to s and e lines. J. P. Rayzor & Atlantic, Boone 1, S 17, J. M. Swisher sur, 150 ft to s and w lines. C. W. Boller, Gregg 2, A. Rohus sur, 300 ft s of 1.

Atascosa County—Grayburg, Caruthers 2, No. 377, J. W. Cooper sur, 825 ft to n and 845 ft to e line.

Angelina County—Roxana, Long Bell 5, T. Smith sur, 3005 ft to e and 327 ft to n line.

Brown County—Amerada, Fry 25, S 9, G. Stubblefield sur, 340 ft to e and 370 ft to s line. R. E. Hills, Childress 1, D. Short sur, 150 ft to e and 520 ft to s line. Humble, Armstrong 10, J. Delgado sur, 300 ft e of 9; Hodnett B 8, J. W. Harris sur, 300 ft e of 6. O. H. Shoup, Jr., Byler 6, S 43, T&NO Ry sur. Essok Oil Co., Byler 12, S 45, T&NO sur. Texas Co., Lowe 38, S 622, Stubblefield sur, 300 ft n of 35; 39, 400 sw of 29. Jas. E. McKanna, Shore 10, No. 625, C. S. Betts sur, 286 ft to n and 150 ft to e line; 11, 14 ft s of center of n line. Root & Rhodes, Pugh 3, C. J. Pugh sur, 150 ft to s and e lines. J. K. Hughes, Shore 1, J. C. Ryan sur, 150 ft to n and w lines; 2, 300 ft s of 1; 3, 300 ft s of 2. Rowan & Tong, Miller 1, 150 ft to n and e lines. E. R. Wilson Est., Newton 3, P. Curlong sur, 400 ft s of 1. Senior Pet. Co., Williams 1, S 4, E. T. Ry sur, 744 ft to n and 987 to w line. A. A. Elms et al, Capps 1, F. Hunt sur, 750 ft to n and 1260 ft to w line. Texas Co., Lowe 36, No. 622, G. Stubblefield sur, 1208 ft to n and 1705 ft to w line; 37, 450 ft to w and 150 ft to s line. Harry Randall, Barnes 1, S 102, J. Bird, sur, 150 ft to n and w lines.

Bastorp County—Texas Co., Goertz 1, J. Lentz sur, 200 ft to w and 150 ft to s line.

Bexar County—H. R. Beal, Ackerman 1. Associated Pet. Co., Caruthers 13, Wm. Caruthers sur, 503 ft e of 12; Ernest 1, No. 266 A. McSnyder sur, 360 ft to n and 150 ft to e line.

Brazoria County—Gulf, Perry 2, S. F. Austin sur, 250 ft n of 1. Texas Co., Arnold 23, J. H. Bell sur, 200 ft s of 5.

Callahan County—Branch Bros., Windham 1, S 2, blk 6, S. P. Ry sur, 450 ft to e and 940 ft to s line. Barbee, Hayes & Lowerre, Hall 1, No. 199, Westhall sur, 330 ft to n and 660 ft to w line. West & Turner, Brandon 1, 2267, TE&L sur, 150 ft to n and e lines. Warren-Hayes Oil Corp., Hatchett 1, S 24, D&D Asy sur, 150 ft to n and e lines. W. A. Thompson, Higgins 1, S 38, D&D Asy. sur, 660 ft to s and 150 ft to w line. Tallet & Graham, Alvid 1, S 76, BO&H sur, 150 ft w of center of e line. Moutray Oil Co., Hickman 5, S 149, BBB&C usr, 1050 ft to e and 150 ft to n line. Valley Oil Co., Hickman 32, S 148, BBB&C sur, 750 ft to e and 150 ft to s line. Forster, Burkett & Mann, Ramsey 2, 3195, TE&L sur, 300 ft n of 1. Wm. Lorenzen, Qualls 2, 3188, TE&L sur, 2175 ft to w and 2575 ft to n line. Fred Pool, Diller 1, S 53, L. A. L. sur, 150 ft to n and e lines. H. V. Houser, Wagley 3B, 2969, TE&L sur, 300 ft w of 1B. Ocean Oil & Ref. Co., Henderson 10, blk 72, 1181, TE&L sur, 300 ft n of 6; 8, 300 ft e of 4. Ross & Frost, Flowers 1, S 51, BBB&C sur, 150 ft to s and e lines.

Crane County—Tidal, University H 2, S 38, blk 30, Univ. 3330 ft to s and w lines.

Cooke County—American Ref. Co., Dennis 11, T. J. Moss sur, 300 ft n of 5. Fain-McGaha Oil Corp., Otto 1, W. C. Davis sur, 150 ft to n and w lines. J. K. Hughes Dev. Co., Embry 6, T. J. Moss sur, 300 ft w of 1. Keivannell Oil & Gas Co., Dennis 1, J. B. McClyman sur, 150 ft to s and w lines.

Carson County—Texas Co., Burnett 6, S 113, blk 5, I&GN sur, 330 ft to s and e lines. McMan Oil & Gas Co., Bryan 8, S 92, blk 4, I&GN sur, 330 ft to s and w lines; Bryan 7, S 107, 330 ft to n and e lines.

Collingsworth County—Duke-Panhandle Oil Co., Stokely 1, S 97, blk 22, H&GN sur, 1000 ft to s and 650 ft to w line.

Concho County—H. Adams, Price 1, S 78, blk 71, H&GN sur, 300 ft to s and e lines.

Cherokee County—F. Woodmansee, F. Hills 2, J. M. Durst sur, 350 ft sw of 1.

Clay County—E. J. Stump & Co., Boddy 1, blk 47, H. B. Eustis sur, 660 ft to n and 450 ft to e line.

Coleman County—Bowers, Evans & Vaughn, Eads 1, 636, J. Dry sur, 150 ft to s and e lines. Amerada, Harris 110, S 5, J. Sanders sur, No. 162, 440 ft w of 9.

Duval County—Houston Oil Co., Brennan 1, lot 13, No. 14 sur, 150 ft to s and e lines. Colet Petroleum Co., Arispe 39, S 19, blk 8, 660 ft to s and e lines.

Eastland County—Barkley & Crotty, Terrell 1, F. Scranton sur, 300 ft to s and e lines. John C. Keys, Fee 1, S 64, blk 4, H&TC sur, 161 ft to w and 272 ft to s line. H. B. Mays, Williamson 1, S 11, blk 4, H&TC sur, 300 ft to w and 800 ft to s line. Williamson 1, S 11, blk 4, H&TC sur, 300 ft to w and 800 ft to s line. Hoffman & Page Lyerla 2, S 25, blk 2, H&TC sur, 1800 ft to n and 150 ft to w line.

ElPaso County—American Land Co., Roseborough 1, S 5, blk 31, School sur, 90 ft to e and 230 ft to s line.

Fort Bend County—Texas Co., Fee 4, M. Young sur, 150 ft s of 2. Humphreys Corp., Blue Ridge 3, T. Hobermakcer sur, 200 ft se of 1.

Fayette County—La Fayette Oil Co., Marquarat 1, J. R. Phillips sur, 976 ft to nw and 400 ft to sw line.

Gray County—Pure, Davis 7, S 86, blk 3, I&GN sur, 330 ft to e and 990 ft to s line. Wilcox Oil & Gas Co., Worley 27, S 62, blk 3, I&GN sur, 330 ft to n and e lines. St. Clair Petroleum Co., Crews 1, S 9, blk 25, I&GN sur 330 ft to n and w lines. Texas Co., Barrett 1, S 130, blk 3, I&GN sur, 330 ft to n and e lines.

Gonzales County—F. G. Sterns, Ramzinsky 1, 1060, to n and 725 ft to w line.

Hutchinson County—Antelope Creek Oil & Gas Co., Sanford 2, S 82, blk 46, I&GN sur, 330 ft to n and w lines. Prairie, Johnson A 68, S 28, blk Y, A&B sur, 330 ft to s and e lines. G. H. Williams, Sanford 1, S 80, blk 46, H&TC sur 607 ft to n and 330 ft to w line. Skelly, Sanford 1, S 82, blk 46, HT&B sur, 330 ft to n and w lines. American Ref. Co., Deahl 7, S 19, blk Y, M&C sur, 330 ft to s and w lines. Mudge Oil Co., Cockrell 2, S 3, blk B3, D&SE sur, 330 ft to n and w lines. Canadian River Oil Co., Sanford 1, S 81, blk 46, H&TC sur, 330 ft to n and w lines. Diamond Oil Co., Cockrell 1, S 4, blk 23, 293 ft to e and 330 ft to s line. Midwest, W. Grisham 2, S 67, blk 46, H&TC sur, 990 ft e of 1; Johnson 6, S 70, blk 46, H&TC sur, 336 ft to n and 340 ft to w line.

Howard County—Merrick & Bristow, Hooks 2, S 140, blk 25, W&NG sur, 200 ft to n and e lines. Tidal Oil Co., Chalk 1, S 114, blk 29, W&NW sur, 200 ft to n and w lines; 2, 200 ft to s and w lines. Lockhart & Co., Chalk 3, S 114, blk 29, W&NW 1650 ft to s and 330 ft to e line. Marland, Guitar 1, S 4, blk A, Bauer & Cockrell sur, 1320 ft to w and 2640 ft to n line. Chalk A8, S 95, blk 29, W&NW sur, 250 ft to n and 1492 ft to w line.

Harris County — Rio Bravo, Settegast B PSB4, J. Kopman sur, 150 ft e of BBSI. M. & B. Co., Scoregga 6, Wm. Scott sur, 450 ft s of 3. Humble, Warren 1, No. 1 HT&B sur, 2150 ft to w and 900 ft to n line.

Hardin County—Robertson Oil Co., Weiss, Dies & Hooks 4, blk 8, M. Choate sur, se corner. Gilbert Co., Fee 100, S. Jackson sur, 128 ft to w and 1838 ft to s line. Gulf, Choate 65, C. Choate sur, 125 ft e of 60.

Harrison County — Waterman Drilling & Dev. Co., Hickman 2, E. Pollock sur, 400 ft to s and 170 ft to w line.

Jefferson County—Rio Bravo, T&NO 58, J. Douthitt sur, 85 ft n of 54. Yount-Lee, McFaddin, Weiss & Kyle 29, P. Humphreys sur, 1374 ft to w and 845 ft to n line; Gladys 24, blk 96, J. A. Veatch sur, 20 ft to s and 33 ft to w line; 25, 380 ft to s and 326 ft to w line; Fee 24, blk 5, J. Douthitt sur, 670 ft to w and 122 ft to s line; 25, 50 ft to s and w lines. Mann 4, J. Douthitt sur, 65 ft to nw and 30 ft to ne line.

Jones County—D. R. Buchanan, Caton 1, S 9, D&D Asy. sur, 660 ft to w and 200 ft to s line. Kirk & Brewer, Milsap 1, S 3577, J. Rodriguez sur, 150 ft to w and 1350 ft to s line.

Kent County—Douglas Oil Co., Beggs 1, S 57, H&GN sur, 1320 ft to n and w lines.

Kleberg County—Humble, Kiolin 1, S 39, blk 2, KT&I sur, 150 ft to N and 1230 ft to s line.

Knox County—Humble, Goode 1, S7 HT&B sur, 200 ft to s and e lines.

Liberty County — Gulf, Ganshaw 1A, Wm. Duncan sur, 60 ft to n and 70 ft to e line.

Lee County—M. O. Ricketts 1, J. Maximillian sur, 250 ft to s and e lines.

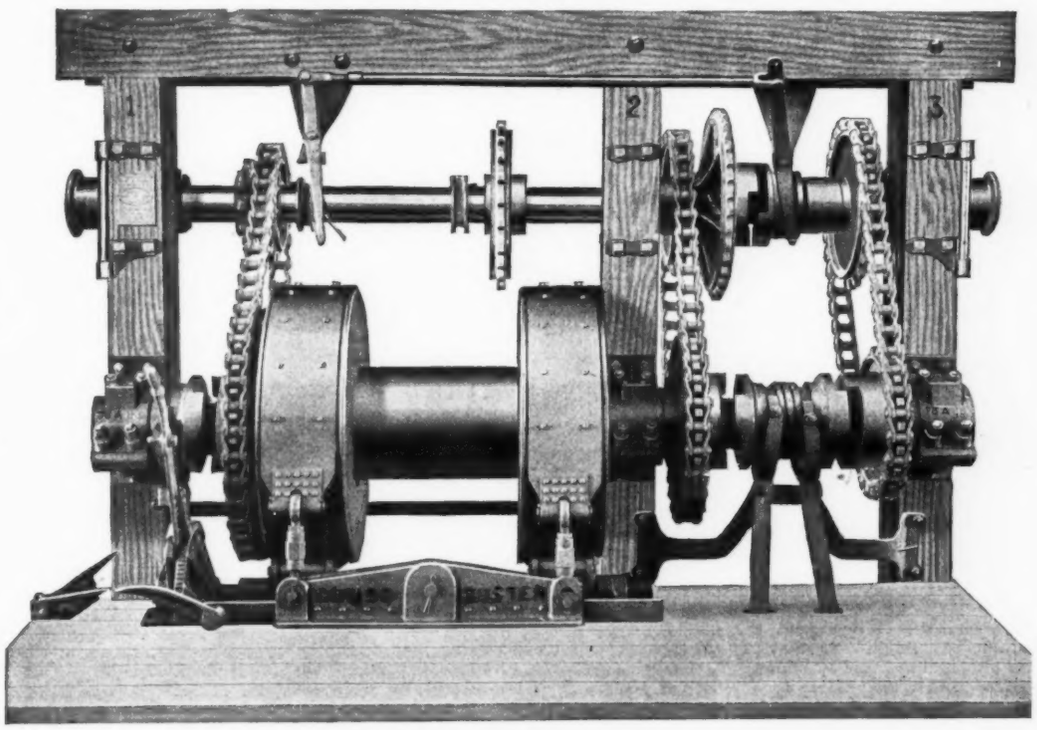
Live Oak County—Houston Oil Co., Dunning 1, M. B. Kiolin sur, sw corner.

Loving County—Kingwood & Co., Ludeman 1, S 2, blk C25, School sur, 1324 ft to n and e lines.

Montague County—E. L. Smith, Maddox 10,

NOW!

A Draw Works In Keeping With the Rest of the Big Gumbo Buster Rotary Rig—



Front View Gumbo Buster 78A Draw Works

The Gumbo Buster 78A Draw Works is not a radical departure from the previous Gumbo Buster Draw Works design. But, it has been made larger and stronger in order to stand the severe drilling conditions encountered now, and for a good many years to come.

The Gumbo Buster 78A Draw Works has a 7″ line shaft, 8″ drum shaft, 20″ spool, 12½″ brake bands, 10x14 hardwood post, all-steel clutch blocks and sprockets, a front equalized floor type brake and other desirable features.

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OIL AND GAS WELL SUPPLIES
ROTARY AND CABLE TOOLS

Say you saw it in The OIL WEEKLY

C. W. Thompson sur, 150 ft to n and w lines; 12, 346 ft w of 1. Wood, Benton, Lesh & McCall, Cunningham 1, G. Bayne sur, 150 ft to n and e lines. Texas Co., Maddox D 10, H. S. Arnold sur, 1123 ft to w and 215 ft to s line; 11, 1238 ft to w and 150 ft to n line. Bridwell & Heydrick Oil Co., Crenshaw 1, Wm. Wallace sur, 1050 ft to s and w lines. Pure, Keck A 2, Wm. Donoho sur, 200 ft to e and 2600 ft to s line; Maddox 8C, C. W. Thompson sur, 650 ft to w and 538 ft to s line. F. H. E. Oil Co., Howard D 1, J. Chambliss sur, 150 ft to s and w lines.

Milam County—Poor Boy Oil Co., Coulter 2, T. S. Arnett sur, 150 ft to n and e line; 3, 150 ft n of center of s line. Coffield, Hale & Noack Oil Co., Smith 4, T. J. Chambers sur, 150 ft to n and 450 ft to e line W. T. Ramsel Oil Co., Gohman 1, T. S. Arnett sur, 150 ft to n and w lines; 2, 300 ft e of 1; 3, 300 ft s of 1. Noack Oil Co. 4, T. J. Chambers sur, 300 ft e of 3.

McLennan County—Ben H. Stlies, Greig 1, C. O. Campo sur, 1440 ft to w and 240 ft to s line.

Matagorda County—Moody Corp., Myers 2A, blk 6, Wm. Hadden sur, 306 ft to n and 70 ft to w line. Gulf, Sanborn 3, T. Williams sur, 1933 ft to e and 107 ft to n line; Parkinson 3, Kingstown & Powell, south central.

Medina County — N. F. & R. M. Yantis, Chandler 1, S 12, blk 2, 160 ft to n and 468 ft to w line.

Nolan County—A. G. Malone, McElroy 1, S 36, blk 20, T&P sur, 3250 ft to e and 1320 ft to s line.

Navarro County—W. A. Reiter, Stubbs 1, blk 9, M. Boren sur, 150 ft to s and w lines.

Orange County—Gulf, Peveto 11, Wm. Dyson sur, 1563 ft to w and 391 ft to n line.

Pecos County—Mid-Kansas, Smith-Taylor 1, S 33, blk 194, GC&SF sur, 250 ft to e and 1320 ft to s line; Yates C 1, S 60, blk 1, I&GN sur, 785 ft to w and 250 ft to s line; Yates A 4, S 34½, 250 ft to n and 785 ft to w line.

Potter County—El Rio Oil Co., Gas Permit 1, S 5, BCR, s central.

Palo Pinto County—L. D. Ladd Lee 1, 750 ft to n and 150 ft to w line.

Shackleford County—Adamson & Bearman, Bernstein 1, TE&L sur, 150 ft to n and e lines. F. L. Kuykendall, English 1, S 18, Univ. Lands sur, 150 ft to s and w lines. Prairie, Webb 1, 586, TE&L sur, 933 ft to s and e lines. Cato Oil & Gas Co., Mathews 1, S 27, E T Ry sur, 750 ft to n and 150 ft to w line. M. F. Spillers sur, Blach 1, 540, TE&L sur, 150 ft to nw and 450 ft to sw line. Milham Corporation, Moore 29, 1561, TE&L sur, 600 ft to s and e lines; 31, 930 ft se of 1. Gleason & Sanford, McGough 1, 579, TE&L sur, nw corner. H. G. Gwinnup, Greene 1, S 62, blk 12, T&P sur. J. D. Meredith, Cook 3, S 19, Univ. Lands sur, 150 ft to e and 450 ft to s line. W. D. Kynerd, Lescher 1, 546, TE&L sur, 150 ft to n and e lines. Southern Pet. Explo. Co., Dyer 4, S 84, blk 12, T&P sur, 150 ft to s and e lines. Hoffer Oil Corp., Broyles 5, S 14, L. A. L. sur, 539 ft to s and 475 ft to w line. Home Oil & Gas Co., Huber 7, 531, TE&L sur, 150 ft to nw and 450 ft to ne lines. Hyde & James, Moberly 6, S 59, E T Ry sur. Independent, Powers 2, S 13, blk 12, T&P sur, 50 ft w of 1.

Shelby County—Magnolia, Pickering 1, W. J. Crane sur, 3960 ft to w and 350 ft to s line.

Stephens County—Mid-Kanass, Richardson 4, S 2, blk 5, T&P sur, 330 ft to n and w lines. Phillips, Post 1, S 39, T&P sur, nw corner.

Throckmorton County — Reiter-Foster, Graham 3, 985, Premium sur, 488 ft n of 2; 4, 400 ft w of 2.

Taylor County—Morrison & Thompson, Rose 1, S 29, blk 19, T&P sur, 330 ft to s and e lines.

Val Verde County—Transcontinental, Stevenson 1, S 8, blk 4, H&GN sur, 300 ft to e and 3520 ft to s line.

Wichita County—C. P. Sheldon, Frankl 3, S 327 Wag. Col. sur, 150 ft to n and w lines. Petroleum Prod. Co., Love B 5, blk 11, W. S. Kennard sur, nw corner; 6, 300 ft e of 4. Ryan Consol. Pet. Corp., Nance 90, S. O. Fowler sur, 305 ft se of 82; 91, 400 ft nw of 85. Texas Co., Marriott 32, S P Ry sur, 150 ft to n and w lines. Grayce Oil Co., Overby 4, H. B. Balch sur, 150 ft to n and 1050 ft to w line. C. P. Sheldon, Frankl 4, 823 Wag. Col. sur 150 ft to n and w lines. Golding & Cochran, Waggoner 1, blk 34, H. George sur, 150 ft to n and 107 ft to e line. Fresno Oil Co., Dodson 5, C. Winters sur, 170 ft n of 3; 6, 150 ft n of 5. Panhandle Ref. Co. Lilly-Griffith 9, F. Jordan Grayce Oil Co., Daniel 16, H. Hastie sur, Morris Bros. et al, Bickley 1, J. F. Torrey sur, 150 ft to w and 1050 ft to s line. F. P. Jackson, Jr., Munger 1, blk 24, W. V. F. L. sur, 150 ft to w and 3971 ft to s line. Bridwell & Mayfield, Waggoner 4, H. George sur, 300 ft w of 1. Rayzor & Ross, Priddy 1, J. M. Sharp sur, 450 ft to n and 150 ft to e line. Texas Co., Marriott 22, S. P. Ry sur, 150 ft to n and 875 ft to w line.

Wilbarger County — Milham Corporation, Waggoner 14B, S 31, blk 4, H&TC sur, 300 ft sw of 6. Gulf, Blackman 3, W. A. McKinney sur, 300 ft s of 1.

Webb County—Cornhusker's Oil Co., Fee 7, GC&SF sur, 600 ft to s and 1575 ft to e line. Cintex Petroleum Co., Peal 1, S 72, blk 5, 150 ft to s and e lines of blk 5.

Wharton County—Boling Oil Co., Carson 2, S 22, Missouri Land Co. sur, 325 ft to n and 50 ft to e line.

Young County — Tidal Oil Co., Benson 12, 1451, TE&L sur, 300 ft w and 100 ft n of 10. Roxana, Ford 12, W. T. Carter sur, 200 ft to n and 300 ft to w line. Panhandle Ref. Co., Fermer 4, T. Rose sur, 150 ft to e and 450 ft to s line. Proctor Oil Co., Prideaux 1, blk F, C T Ry sur, 150 ft to s and e lines.

Zapata County—Charco Redondo Oil Co., Garcia 66, C. Redondo sur, 200 ft w of 52; 65, 200 ft w of 64.

LOUISIANA

Acadia Parish — Abshire-Bolyard Oil Co., Jennings-Heywood 4, 41-9s-2w, 433 ft s and 139 ft e of nw.

Caddo Parish—W. D. & Carrie Cole Chew, Fee 5, 33-21n-16-w, 2230 ft s and 1785 ft w of ne. Gulf, Ferry Lake 268, 22-20n-16w, 1620 ft s and 1620 ft e of nw. Harry I. Morgan, Glassell 8, 10-20n-15w, 200 ft n and 1520 ft e of sw. Standard, W. P. Stiles 179, 33-21n-16w, 1085 ft s and 1126 ft e of center; W. P. Stiles 180, 33-21n-16w, 1236 ft e and 30 ft s of center; W. P. Stiles 181, 33-21n-16w, 267 ft s and 152 ft w of ne cor of se of sw.; W. P. Stiles 182, 33-21n-16w, 730 ft and 300 ft w of ne corner of se of sw.

Calcasieu Parish—Edgerly Pet. Co., Vincent 12, 34-10s, 12w, 100 ft s and 50 ft w of ne cor of lot 104, sec 34. Vinton Pet. Co., Gray-Rescue 7, 33-10s-12w, 230 ft s and 156 ft w of ne cor of nw of se. Vincent Heirs 19, 34-10s-12w, 112 ft n and 880 ft e of sw cor.

LaSalle Parish—Ayres Brothers et al, Tremont Lbr. Co. 4, 30-10n-2e, 300 ft s and 200 ft e of nw cor of sw of nw.

Natchitoches Parish—Ohio, S. F. Thomas 1, 23-13n-6w, 339 ft s and 360 ft e of nw cor of ne of sw.

Ouachita Parish—Consumers Gas Co., Williams 1, 10-19n-5e, 660 ft n and 4060 ft w of se cor.

Red River Parish—Gulf, Kennedy 23, 24-13n-11w, 2840 ft s and 200 ft e of nw cor.

St. Martin Parish — Bowie Oil & Gas Co., Begneaud 4, 113-9s-5e, 2970 ft w and 330 ft s from ne cor.

Winn Parish — Humble, L. & A. Oil Co. 20-A, 27-10n-2w, 1520 ft n and 200 ft e from sw cor.

ARKANSAS

Ouachita County—Marine Oil Co., Umsted 11, 5-16-15, nw e½ lot 1, ne.

Union County—Magnolia, J. Murphy 3, 8-16-15, 124 ft s and 150 ft w of ne sw nw sw; T. D. Murphy 9, 8-16-15, 200 ft n and 200 ft w of se cor sw sw; Saxon 4, 5-16-15, sw cor w½ ne se. Stewart et al, Murphy 8, 9-16-15, 450 ft s and 150 ft e of nw cor e½ ne sw.

KANSAS

Barton County—Hagnes et al, Taul 1, nw 31-18-13.

Coffey County—Baliere et al, Talbert 1, c sw sw 20-21-14. Harper et al, Peek 1, se sw sw 16-23-14.

Cowley County—Pattee et al, City of Winfield 1, c lot 5, 22-23-4.

Elk County—Seeley et al, Donnal 3, c se nw 12-30-9. Love et al, McSpadden 1, c e l nw se 18-31-10.

Greenwood County—Snyder et al, Laird 1, ne se sw 3-23-10. Superior, Jones 9, ne sw sw 21-23-13. Abel et al, Freeman 1, se nw 6-24-11. Cross et al, Hoover 1, ne se 36-24-12. Mid-Kansas, Hoffman 2, Acc. 2, se sw sw 24-25-8.

McPherson County—Johnson et al, Kuns 1, se nw 12-19-3.

Russell County—Streeter et al, Coraham 1, sw ne 7-13-15.

Sumner County—Derby, Reitz 2, nw ne nw sw 25-31-2. Roxana Slegh 1, c e l se sw sw 25-31-2; River Bed 7, se nw nw 25-31-2; churchill 7, c s½ se sw 25-31-2; Taton 1, c n l s½ n½ 36-31-2.

Woodson County—Superior, Dewey 15, sw ne sw 31-23-14.

OKLAHOMA

Caddo—Gorton Trust Co., Wade 8, nw ne sw 2-5-9.

Carter County—Magnolia, Morris 1, nw ne se 21-2-3; Hardin 8, ne nw 19-1-3; Hardin 5, sw nw sw 19-1-3. Carter, Pierce 2, sw 8-2-2.

Cleveland County—Cromwell et al, Donovan 1 sw 22-10-2.

Comanche County—Couch et al, Watson 1, se nw ne 24-2-10.

Creek County—Curtis, Gray 1, sw nw 21-18-9. Haddock et al, Perryman 1, nw ne se 8-17-9. Roxana, Yarhola 1, sw nw nw 11-17-9. Carter, Harris 2, sw ne 12-17-10. C. G. Tibbens, Lucas 6, nw ne se 31-15-9. Texas Abraham 1, nw 29-14-9.

Garvin County—Magnolia, Cowan 27, sw ne 15-1-3. Garland, Strickland 1, sw nw sw 10-4-3.

Grady County—Empire, Glasco 1, se sw sw 25-4-6. Carter, Horton 1, ne nw sw 8-3-5.

Jefferson County—Magnolia, Ryan 1, se nw se 23-6-6.

Kay County—Carter, Sutton 1, nw se 30-25-1; Sutton 1, sw ne 30-25-1.

McClain County—Grown, McCullough 1, sw nw 26-5-3.

Murray County—Revels et al, Wolf 1, nw 17-1-2.

Muskogee County—D. C. Lampton, Carolina Carolina 1, ne nw sw 9-15-18.

Noble County—Bu-Vi-Bar, Sawyer 1, ne nw 12-21-3.

Okfuskee County—Carter, Unallotted 3, se nw 23-11-11.

Okmulgee County—Savoy, Grayson 3, c s l se se 19-16-14. L. C. Wheeler et al, Cobb 1, nw ne se 13-15-11. Jordan et al, Thornburg 1, c nw ne 27-15-12. Sheridan, Willin 1, sw se nw 33-15-12. Moffett et al, Holmes 5, ne nw ne 7-11-12. W. S. Kussleman, Rentie 2, ne nw se 19-14-15.

Osage County—Eddington et al, 8, ne nw nw 3-22-9. Knupp 1-A, ne nw 28-22-12. Peters et al, 1, sw se ne 18-24-8. Texas, 5, nw sw sw 29-25-8. Phillips 1, nw se 35-26-11. Gypsy, 4, se ne se 28-27-6; 5, ne se 28-27-6. L. C. Duffield 1, ne nw nw sw 35-29-10.

Pawnee County—Shelts et al, Martin 4, c w l sw ne 7-20-8. C. G. Tibbens, Factor 1, ne 29-15-8. Burk-Gris, Strip 2, se nw sw 16-17-8. A. A. Bailey et al 1, ne se 23-18-8. Sinclair, Long 2, sw 9-18-7.

Pontotoc County—LaSalle et al, Copeland 2, sw ne nw 28-5-5. Bowles et al, Lewis 1, se sw 29-5-5. American, Phillips 1, sw ne 34-5-5. Logaden 1, ne sw 35-5-5. Dixie, LaSalle 1, se nw 10-4-6.

Pottawatomie County—Gypsy, Earl 5, se ne nw 16-9-5. Magnolia, Billington 1, ne nw ne 22-7-6.

Seminole County—Atlantic, Fleet 2, nw ne nw 23-8-6. I. T. I. O., Goforth 11, se nw ne 15-8-6; Goforth 10, sw nw ne 15-8-6; Goforth 9, ne se ne 15-8-6; Walker 8, ne se se 18-8-8; Walker 7, se ne se 15-8-6; Livingston 10, se

(Continued on page 97)

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WILDCATS FROM ALL SECTIONS

NORTHERN CALIFORNIA

Antelope Plains—W. H. Davis, 1, dr 2788 ft.

Belridge—Union's Colm 1, dr 951 ft. Zurich Oil Co.'s 1, dr 150 ft.

Buttonwillow—Milham Exp. Co.'s Kern 1A, running 11 in.; Salisbury 1, rig.

Comanche Point—Kern 29 Oil Co.'s 1, sd 2440 ft.

Devils Den—Devils Den Prod. Co.'s 5, rigging 114 ft. Marathon Oil Co.'s 1, fsh 4390 ft. Midway-Northern 1, sdtr 150 ft. Robbins Oil Co.'s 1, bailing 2280 ft. R. H. Sayers' 1, dr 456 ft.

Elk Hills — McAdams Pet. Co.'s 1, cmt 3503 ft.

Gould Hills—A. J. Bomke's 1, sd 610 ft. Carolina-Western's 1, dr 1160 ft. Max L. Pray's 1, fsh 800 ft. Rhoads Oil Co.'s 1, sd 1485 ft; 2, rig. L. E. Westrich's 1, dr 1667 ft.

Jasmine-Delano—C. C. M. Oil Co.'s Quinn 1, 250 ft.

McKittrick—Abbott Pet. Co.'s 1, dr 1942 ft. Lacy-Espr Pet. Co.'s 1, sd 3260 ft. McKittrick Hills Oil Co.'s 1, dr 2400 ft. Ridge Oil Co.'s 1, dr 2400 ft. Ridge Oil Co.'s 1, dr 3560 ft. Sisson-Wisdom's 1, sd 970 ft.

North Midway—Bolsa Chica Oil Co.'s 1, stg susp 185 ft.

Rosedale—Muroc Dev. Co.'s 1, dr 150 ft.

Sunset—Fresno-Sunmaid Oil Co.'s 1, sd 4200 ft. Gore Explo. Co.'s 1, dr 2800 ft. R. H. Whistoh's 1, dk.

Shale Hills—Huntington-Hawthorne's 1, sd 408 ft. Nelson & Mountford's 1, dr 2284 ft. Oildale Oil Co.'s 1, dr 558 ft.

Temblor Hills—Fortuna Oil Co.'s 1, dr 2585 ft. Hovey Hills Oil Co.'s 1, sd 2510 ft. Painted Hills Oil Co.'s 1, std 500 ft.

Tehachapi-Mojave — Crusaders Oil Co.'s 1, sd 2284 ft. J. B. Harding's 1, dr 516 ft. C. R. Rasmussen's 1, dr 1444 ft.

Upper Kern River—Barnes Oil Co.'s 1, circulating 1356 ft. Commerce O. & G. Co.'s 1, std 2058 ft.

Upper Poso Creek — Dr. Buchner's 1, fsh 960 ft.

FRESNO COUNTY

Clovis—Fresno-Sunmaid's 1, sd 3760 ft. W. W. Taylor's 1, sd 2100 ft.

Rasin City — Fresno-United Oil Co.'s 1, sd 3961 ft.

Wartham—Bald Mountain Drlg. Co.'s 1, sd 905 ft. Progressive Oil Co.'s 1, sd 1105 ft.

KINGS COUNTY

Kettleman Hills—Ahlburg Gasoline Corp.'s 1, sd. Associated's 1, sd 2043 ft. C. C. M. O. Co.'s 1, sd cmt 610 ft. Bolsa Chica Oil Co.'s 1, sd 2360 ft. General's 1, r 3062 ft. Hugh McPhail's 1, resuming dr 1972 ft. Milham Explo. Co.'s 1, rigged up. South Coalinga Oil Co.'s 1, coring 2100 ft.

VENTURA COUNTY

Camarillo—Cal. Pet.'s Arniel 1, dr 1645 ft. Standard's 1, dr 4926 ft.

Casitas-Ojai—Miley Explo. Co.'s Casitas 2A, sd 568 ft.

Moorpark — E. A. Parkford's Lloyd 1, dr 2216 ft. Shell's Berlywood 1, dr 2302 ft.

Montalvo—Standard's Montalvo 1, dr 4422 ft.

Piru—Superior's Penna 1, dr 3080 ft.

Rincon — Montecito Oil Producers' 1, sd 3200 ft.

Santa Paula Canyon—Null Dev. Co.'s 3, dr 1100 ft.

Sespe—Sespe Oil Co.'s Smith 2, sd 4003 ft.

Ventura—C. C. M. O. Co.'s Hobson 2A, dr 2900 ft. Milham Explo. Co.'s Sexton 1, fsh 7092 ft. Rio Grande Oil Co.'s Canet 1, dr 4500 ft. Star Pet. Co.'s Star-Canet 1, cutting out dr pipe 2200 ft.

Santa Barbara County—Channell Oil & Dev. Co.'s 1, re-dr 4620 ft. Hollywood Oil Corp.'s 1, sd 1280 ft. Summerland Oil Co.'s Becker 1, dr 2743 ft.

San Luis Obispo County — Arroyo Grande Pet. Co.'s 1, testing 4386 ft. Barneysburg Oil Corp.'s 1, sd 4500 ft. Brikman Oil Co.'s 1, sd 540 ft. Mapes Holding Co.'s 1, sd 560 ft. Painted Hills Oil Co.'s 1, dr 1060 ft. Richfield Oil Co.'s 1, rigigng up 100 ft.

Monterey County—Pet. Sec. Co.'s Anotebehere 1, dr 1756 ft.

Tulare County—Ducor Drlg Co.'s 1, dr 4161 ft. J. W. Grafford's 1, sd 2525 ft. Ozena Oil Co.'s 1, dr 2020 ft. Wm. C. Resser's 1, co 1815 ft.

San Mateo County—Ashton & Crafts' 1, dr 2188 ft. Big Basin Paraffine Co.'s 1, dr 738 ft. La Honda Oilfields 1, testing 1160 ft. A. M. Steel's No. 1, dr 820 ft. Shell's Cowell 1, dr 1921 ft.

Sonoma County—Shell's Murphy 1, dr 4718 ft.

Santa Cruz County—Danish Oil Dev. Co.'s 1, dr 3067 ft. Calahan's 2, dr 615 ft. Santa Cruz Oil Trust Co.'s 1, dr 2420 ft. Myrick Oil Co.'s 1, dr 860 ft. Fred Swanton's 1, dr 732 ft. Payette & Gaffey's 1A, dr 970 ft.

SOUTHERN CALIFORNIA

COMPLETION

Company, Well and Location	Initial Production Bbls.	Depth
Clearwater—		
Clearwater Pet. Corp.'s test	*	1450

DRILLING REPORT

Athens—Union's Mosier 1, fsh 5690 ft.

Bandini—Pan-American's Bandini 1, dr 5466 ft.

Boyle Heights—H. M. Green's P. A. S. F. 1, sd 1400 ft.

Claremont—Claremont O. & G. Co.'s 1, r 1130 ft.

Coyote-West—Bastanchury Ranch Co.'s 1, dr 3898 ft.

Davidson City—Cal. Well Drlg Co.'s 1, dr 4920 ft.

Dominguez—Dominguez Extension Oil Co.'s B&R 1, dr 5226 ft.

Downey—C. F. Ackers' Downey 1, dr out cmt 270 ft.

Eagle Rock—Calwin Oil Co.'s 1, dr 6130 ft.

El Segundo—Rider Synd.'s 1, sd 2300 ft. So. Cal. Drlg Co.'s 1, co 4400 ft.

Gardena—Circle O. & G. Co.'s 1, sd 3360 ft.

Hawthorne—Winwell Oil Co.'s 1, sd 5586 ft.

Irvine—Calny Oil Co.'s 1, sd 4247 ft.

Lancaster—J. B. Harding's 1, oc 1860 ft.

Maywood—Magnolia Pet. Synd.'s 1, sd 4452 ft.

Lawndale—Smith Pet. Co.'s Johnson 1, dr 6001 ft.

Newhall-Saugus—G. W. Johnson's Wickham 1, dr 2840 ft. W. W. Stabler's Castaic 1, fsh 3408 ft. Temple-Lefevre's Castaic 1, sd 2107 ft.

Palos Verdes—Pet. Securities' 1, dr 450 ft.

Potrero—Cal.-Eastern's Smith 1, dr 5188 ft. General's Smith 1, dr 4266 ft.

San Fernando—Standard's University 1, dr 5670 ft.

San Jose Hills—Badeen Oil Co.'s Didier 3, prep to deepen 1938 ft. D & B Oil Co.'s Amar 1, prep to resume dr 3560 ft.

San Juan Capistrano — O. K. Carr's 1, sd 2414 ft. Norswing-Halbertson's Spitz 1, sd 4060 ft.

Sunset Beach—General's Lomita 1, dr 4690 ft.

Telegraph Canyon—Quadra Pet. Co.'s M. J. M. 1, sd 4210 ft.

Topango Canyon — Standard's Austin 1, dr 2446 ft.

Riverside County—Corona Oil Co.'s 1, sd 1550 ft. Spindletop Oil Synd.'s 1, testing 2615 ft. Trabuco Oil Co.'s 1, dr 1981 ft.

San Bernardino County—Burgess-Goodale's Riggins 1, testing 4110 ft. Como Oil Co.'s Cajon 1, sd 1380 ft. Colton Terrace Oil Co.'s Colton 1, dr 1314 ft. Hesperia O. & G. Co.'s 1A, testing 3312 ft. H. & P. Oil Co.'s Ranger 1, sd 2103 ft; McCarty 1, dr 1000 ft. Western Pacific Oil Co.'s 3, dr 2820 ft.

San Diego County — Cardiff Oil Corp.'s Turner 1, dr 2265 ft. Oceanside Oil Co.'s Dunn 1, sd 3210 ft. Randall's 1, sd cmt 1777 ft. Torrey Pines Oil Co.'s 1, sd 428 ft.

NOTE—Following is the explanation of abbreviations, signs, etc., used in completion and wildcat reports: *—dry hole, abandoned well; ‡salt water; †—junked and abandoned; ¶—million cubic feet of gas; abn—abandoned; bbls—barrels; b. s.—basic sediment; cas—casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in—inches; lcn—location; m—milling; n, s, e, w—north, south, east, west; r—reaming; sd—shut down; sdtr—sidetracking; sp—spudding; sr—straight reaming; std—standardizing; sw—salt water; td—total depth; ur—underreaming; wo—workover; wosr—waiting on standard rig.

KANSAS

Barber County—Vickers Pet. Co. et al's Ott 1, sw 30-32-14, fsh 4506 ft.

Butler County—Burford & Brimm et al's Lambert 1, sw se sw 20-25-7, rig.

Cowley County—W. M. Neeley's Henderson 1, nw ne 5-33-5, ts 1025 ft, ¶2.

Lyon County—Culp et al's 1, sw se 26-19-10, dr 1400 ft. Gashe & Balliere's Stratton 1, se nw 32-20-13, dr 1200 ft.

Reno County—Sheldton et al's Hanfison 1, se nw 10-23-4, sd 4000 ft.

Russell County—Wilcox, Russell, Wilson 1, se sw 14-12-13, ur 3631 ft.

Seward County—Wilson et al's Son 1, ne ne ne, 14-33-33, sd 400 ft.

Marion County—Skow Bros.' Williams 1, ne sw 4-17-4, loc.

McPherson County—McLaughlin et al's Ross 1, se 12-19-3, sp and sd. Merrian et al's 1, sw sw sw 29-18-2, td 2931-61 ft, fsh.

Sedgewick County—Marland et al's Schnidt, 1, nw sw sw, 5-28-1, rig.

OKLAHOMA

Beckham County—Magnolia's 1, ne 21-9-23, loc.

Caddo County—W. J. Hartley's Calbreath 1, se ne se 28-5-12, owd sd 3394 ft. J. A. Abernathy's 1, sw ne 23-5-12, rig (old td 2445 ft.)

Canadian County—T. B. Slick et al's Pazourock 1, sw ne 29-13-5, ur 5 in, 4454 ft. Ramsey's Harmon 1, se 28-11-5, spd.

Cleveland County—Sooner's 1, sw 15-7-1, td 2974 ft, fsh 8 in csg. Magnolia's 1, s l sw 11-6-1, dr 2465 ft. Mid-Continent's 1, sw nw 20-8-1, building rig (changed loc). Geo. Brown's 1, 7-9-1, dr 1740 ft. Wiser's 1, sw nw 24-6-1, spd now, rur.

Comanche County—Mid-Kansas' Cox 1, ne se ne 30-1-12, td 1920 ft sd.

Garfield County—Sinclair's Fee 1, sw sw ne 2-20-5, fsh 5018 ft.

Grant County—Ostot Dev. Co.'s Snyder 1, ne 6-28-4, td 4546 ft, fsh 5 in. Brazell & Moses' Royce 1, sw nw 34-28-4, sd 550 ft. Dedman et al's Sherran 1, ne sw 16-26-3, sd 1910 ft.

Hughes County — Snowder & McSweeny's Stewart 1, nw se 11-5-8, p loc.

Kiowa County—A. C. Varner's Bohan 1, se sw nw nw 5-6-10, sd 1127 ft.

Kingfisher County—Pet. Eng Core Drlg. Co.'s Canfield 1, nw se 6-16-7, rig. McKenna et al's Sturgeon 1, nw sw 27-16-6, sd 2115 ft. Reiter et al's Davisonal 1, sw 23-15-5, rig (T. B. Slick has taken over.)

Kay County—Ponca Lee's McNeal 1, ne 32-26-2, td 2795, sd. Tonkawa Dev. Co.'s Mc Daniels 1, se se se 15-25-1, hfw 2450-75 ft, sd.

Lincoln County—Wentz's Lukenbeal 1, sw se 34-17-2, dr 4739 ft.

Logan County—Roxana's McCullough 1, sw ne se 30-18-4, dr 5350 ft. Bryan & Emery's 1, nw se 33-19-4, 4040 ft. Carter's Rogers 1, sw ne sw 32-19-3, dr 4990 ft. Brown & Blevens' Lovell 1, sw nw 9-18-4, hfw 3828-3901 ft. Healdton's Bragg 1, nw se 16-18-4, dr 2760 ft. T-P's Jewell 1, nw ne nw 27-18-4, rig. T-P's Speaks 1, se nw 33-18-4, ru. Haley et al's Quier 1, sw se 33-18-3, td 1900 ft. Zingery et al's Baker 1, nw ne 5-17-1, dr 5340 ft.

Cimmarron County—Jake Phillips' 1, nw 24-6-2, dr 1635 ft. Sinclair's 1, nw 22-5-2, spg. Ramsey Bros.' State land 1, nw ne 27-5-5, top 4095, td 4150. Ramsey Pet.'s School land 1, se 4-5-6, dr 1650 ft. Gladys Bell's Israel, sw ne 25-3-7, dr 1920 ft.

Payne County—Twin State's Tibler 1, ne nw ne 23-18-1, dr 2796 ft.

Noble County—Miller's 101 Ranch 1, ne 1-24-1, dr 4435.

Pottawatomie County—Shaffe et al's Ives 1,

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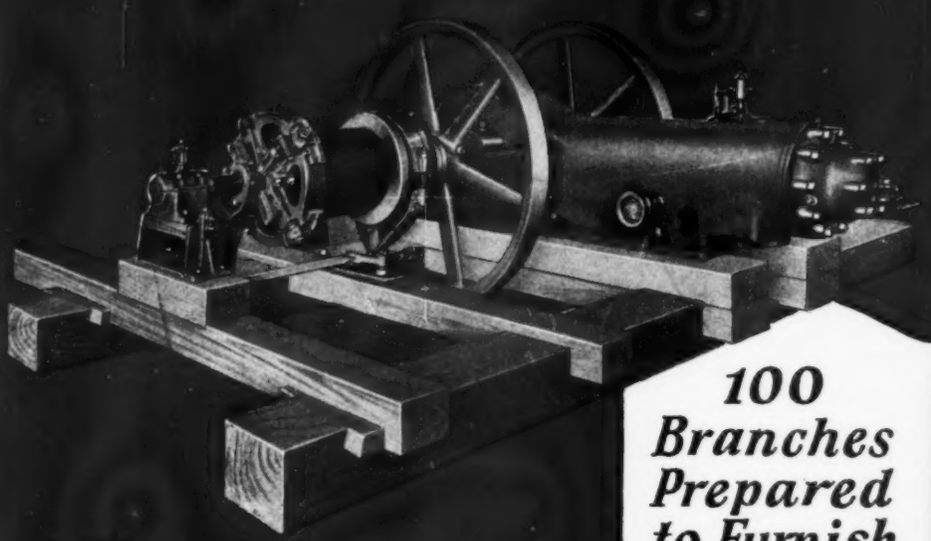

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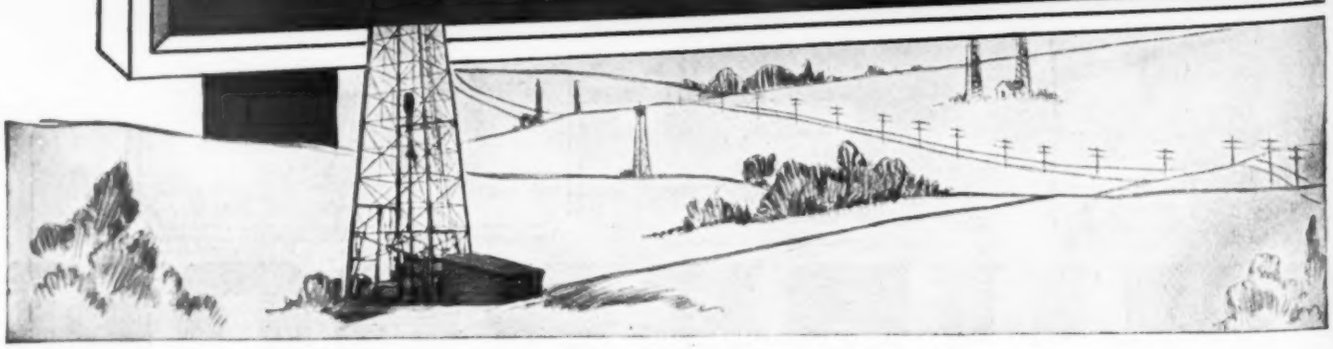

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nw se se 12-10-3, sd 3620 ft. Davis et al's Mc Grathy 1, se nw 10-6-3, td 3890 sd. I. T. I. O. Co.'s School land 1, se sw 16-8-5, cmt csg. 3573 ft. Roxana's 1, nw sw 22-7-3, cmt csg 3600 ft. Magnolia's School land 1, sw se 36-7-3, td 300 ft fsh.

Seminole County—Barnsdall's Sullivan 1, ne sw 10-9-5, cmt cas 3443 ft. Carter's Harjocke 1, ne nw nw 26-10-6 4307 hl 4320-30 ft. Superior's Noble 1, se sw se 10-9-6 dr 3377 ft. Pure's Joah 1, e l nw ne 15-9-7, td 3494-3513 ft. Magnolia's Strother's 1, se nw 17-8-6, fsh 2600 ft. I. T. I. Co.'s House 1, nw nw nw 1-7-6, td 31-85 ft. I. T. I. O. Co.'s Sarah Wiseman 1, nw sw 32-7-7, 2505 ft co. Kennedy et al's Neley 1, s½ ne se 24-5-5, top sdy lime 2839, td 2915 ft. Simmons et al's Lammeter 1, nw ne ne 7-7-6, rig.

Tillman County—Ossie Drlg. Co.'s Snelling 1, se 13-1-18, sd 1525 ft. P. C. Deaner et al's Deaner 1, se se 21-3-16, dr 1190 ft. Pearson's Monts 1, sw 3-5-15, loc.

Texas County—H. F. Wilcox's Zea 1, sw se 29-3-12, ur 6 in at 3620 ft. Haley et al's Ellison 1, nw se se 4-1-12, dr 3675 ft. Connell et al's Tensey 1, se nw 5-1-19, sp and sd.

Pontotoc County—American Oil Co.'s Roy 1, se nw 34-5-6, sd 2000 ft. Shaw et al's 1, ne sw 33-5-6 dr 875 ft. W. R. Ramsey's Butler 1, ne ne 20-5-8, fsh 86 ft.

ARKANSAS

Ashley County—Rhodes et al's Bledsoe 1, 20-15-7, sd 2554 ft.

Bradley County—Arkansas F. O. Co.'s Ark. Lbr Co. 1, 25-16-12, sd 3144 ft. Johnson & Adams Southern Lbr. Co. 1, 12-12-12, fsh 1530 ft. Magnolia's Ark. Timber Co. 1, 35-15-11, dr 4220 ft.

Columbia County — Arkaansas F. O. Co.'s Barge 1, 14-18-22 dr 3085 ft. Colquitt et al's Duffer 1, 23-18-19, rig. Columbia Synd's Whithead 1, 14-19-23, dr 2210 ft. Haynes et al's Runyon 1, 3-16-21, sd 150 ft. Mair et al's Gantt 1, 15-17-22, dk. Mitghell et al's Franks 1, 25-19-22, sd 150 ft. Scott-Phillip's Davis 2, 6-18-20 sd 2145 ft. Wingfields et al's Bodcaw 1, 4-20-21, sd 2025 ft.

Clark County—Whelen Oil Co.'s Barrow 1, 35-10-20, set 12½-inch 47 ft.

Drew County—McClintock et al's Ogle 1, 35-13-5, sd 2550 ft.

Grant County—Jones et al's Meek 1, 5-4-11, rig.

Garland County—Chaywood Oil Co.'s Malvern Lbr. Co. 1, 17-2-17, dk.

Hempstead County—Burton et al's Garland 1, 23-10-25, sd 2210 ft.

La Fayette County—Arkansas F. O. Co.'s Duty 1, 11-19-25, dk. Ken-Saw Pet. Co.'s Red River Lbr. Co. 2, 5-20-24, sd 2840 ft.

Lincoln County—Pine Prairie O. & G. Co.'s Carter 1, 33-10-6, sd 235 ft.

Little River County—Greeson et al's Waldrip 1, 4-13-31, sd 1740 ft. Grote et al's Allen 1, 2-13-31, sd 2941 ft. Johnson et al's Hawkins 1, 10-11-31, sd 1594 ft.

Miller County—Lenze et al's Dale 2, 28-15-26, dr 2765 ft. W. D. Nash's Priest 1, 26-14-26, sd 3850 ft.

Nevada County—Autrey Oil Co.'s McKinney 2, 1-14-21, set 6-inch 1201 ft. Fruen et al's Crossel, 12-12-22, sd 1720 ft; Rhodes 1, 22-12-21, sd 1900 ft. Holmes et al's Wallace 1, 11-14-21, set 6-inch 1188 ft. Humble's Bodcaw 4, 9-15-22, dr 3595 ft. Martin et al's Haynie 1, 6-14-20, set 6-inch 1154 ft.

Ouachita County—Copenhagan et al's Berg 3, 13-15-17, dk. J. E. Crosby's Berry 12, 33-15-15, dr. 4100 ft. Exchange Oil Co.'s Umsted 3, 4-16-15, dk. A. T. Grayson's Reynolds 1, 21-14-17, dr 1095 ft. Gulf's Bennett 10, 33-15-15, dr 2164 ft; Umsted A-25, 33-15-15, dr 2055 ft. Imperial O. & G. Co.'s McClanahan 9, 6-16-15, milling 2500 ft. W. R. Keever's Hicks 1, 27-15-16, arr to test 2290 ft. Magnolia's Gosden 2, 15-15-19, set 8¼-inch 1542 ft; Smith 4, 36-15-17, big 2248 ft. Middlesex Oil Co.'s Shirley 4, 36-15-15, dr plug 2250 ft. Marine Oil Co.'s Umsted 11, 5-16-15, rig. J. D. Reynolds Chandler 1, 3-14-18, sd 1850 ft. A. M. Sutton's Schoolhouse 2, 28-15-16, sd 3060 ft. T. & P. C. & O. Co.'s Laney 9, 31-15-15, dr 2394 ft. Unity Pet. Co.'s Umsted A-8, 33-15-15, set 4¼-inch 2388 ft; Murphy 1, 2-16-15, dr 2569 ft. Wesson et al's Culp 1, 22-15-19, dr 1570 ft.

Union County—C. H. Allison's Howard 1, 8-19-13, sd 15 ft. Arkansas F. O. Co.'s La Grone 8, 1-16-17 dk. Bondurant et al's Garnerf 1, 8-18-12, r 2635 ft. Crescent Oil Co.'s Saxon 1, 5-16-16, sd 53 ft. Garrett & Modisette's Union Saw Mill 1, 7-18-13, coring 3030 ft. W. H. Gilliland's Hodges B-1, 1-16-17, dr 2320 ft. Gulf's Murphy 23, 9-16-15, dr 981 ft.. Humble's Flenniken B-2, 9-16-15, dr 2555 ft; Goodwin 6, 20-17-16 tested dry 2195 ft. Imperial O. & G. Co.'s Murphy 4, 9-16-15 wosr 2778 ft; Murphy 5, 9-16-15, dr 2600 ft; Goodwin 1, 26-17-16 sd 3118 ft. E. M. Jones' Lawton A-2, 10-16-15, dk. Keen & Wolf's Murphy 4, 9-16-15 sd 2650 ft. Lion O. & R. Co.'s Bilyew C-7, 8-16-15 dk; Flenniken A-9, set 6⅝-inch 2391 ft; Murphy D-7, 8-16-15, tested dry 2777 ft; Hardy Murphy 2, 9-16-15, rig. Louisiana Oil Refg. Corpn's Murphy B-3, 9-16-15, dr plug 2715 ft. Magnolia Pet. Co.'s Childs 6, 8-16-16, sd 3000 ft; Nichol Childs 1, 8-16-16, sd 2700 ft; Laney 3, 8-16-16, dk; Laney 4, 8-16-16 dk; Murphy 3, 8-16-15 dk; Murphy 9, 8-16-15 dk; Saxon 4, 5-16-15, dr 1450 ft; Wilson 6, 17-16-15, dk; Wilson 7, 17-16-15, dk Marien Oil Co.'s Winn Estate B-1, 10-18-13, dr 2105 ft; Thompson A-2, 10-18-13 dr 50 ft; Thompson B-1, 10-18-13, set 12½-inch 155 ft. J. L. Meeks Milner 2, 15-17-16, rig. Mountz et al's Pratt 6, 8-18-15, dr 253 ft. O. G. Murphy's T. C. Murphy 6, 9-16-15, cemented back to test 2200 ft. National Consolidated Pet. Co.'s Fagg 2, 8-16-16, dr 1800 ft. Natural Gas & Fuel Corpn's Flenniken 4, 8-16-15, dr 2440 ft; Murphy F-1, 9-16-15, blg 2767 ft; Bilyew 4, 9-16-15, arr to plug back to test 2427 ft. Ohio Oil Co.'s Crain 1, 1-17-14, dr 2745 ft; Murphy 7, 9-16-15, set 4½-inch 2703 ft. J. W. Olvey's Simmons 1, 15-18-13, dr 1348 ft. Peer Oil Co.'s Palmer B-1, 9-16-15, cemented bottom of hole 2666 ft; Palmer B-7, 9-16-15, blg 2426 ft. A. H. Ramage's Lawton C-11, 10-16-15, dr plug 2391 ft. Revenger Oil Corpn's Harrell 4, 14-17-16, dk; McCain 1, 4-17-14, dr 805 ft. Stewart et al's Murphy 8, 9-16-15, dk. Sunny Jim Oil Co.'s Flenniken 4, 9-16-15, rig. Superior Oil Co.'s Jerry 1, 32-17-13, coring 2917 ft; Cordell 2, 5-18-13, dr 2100 ft. Sun Oil Co.'s Hays 20, 3-16-15, arr drill in with cable tools. Unity Pet, Co.'s Roper 15, 3-16-15, dk. Wingfield et al's Green 1, 15-19-13, dk.

LOUISIANA

COMPLETIONS

Grant Parish—		
Holmes et al, Holmes 1, 17-9-1e....	*	....
Holmes et al, Holmes 1-A, 17-9-1e.	*	....
Holmes et al, Fee 2, 17-9-1e.....	*	....
Humble, L. & A. 11, 20-9-2w.....	*	....
Humble, L. & A. A-14, 25-9-2w....	*	....
J. J. Robert, Croom 1, 8-9-1e.....	*	1598
Winn Parish—		
Humble, L. & A. 19, 31-10-2w....	*	1505
Liggett et al, Albritton 1, 27-10-1e..	*	....

DRILLING REPORT

Bienville Parish—Kimbrough et al's Bargyle 1, 27-15-8, sd 1550 ft.

Bossier Parish—Anderson et al's Bulkley 1, 1, 9-20-13, sd 2040 ft. Bethany O. & G. Co., Dodson 1, 16-23-12, tested dry 2718 ft. Clark & Norton's Ford 1, 32-23-12, dr 1900 ft. Doern et al's Thomas 1, 9-22-11, sd 2560 ft. Gulf's Hodges 6, 24-16-12, blg 1561 ft. Harrell Drlg. Co.'s Atkinson 1, 2-18-12, dr 745 ft. Humble's B. & W. 30, 15-19-11, dk. Louisiana O. R. Corpn's Blanton 1, 23-23-12, coring 3050 ft. Magnolia's Dodson 1, 15-23-12, dr 800 ft. Palmer Corpn's Bossier Lbr. Co. 3, 9-16-11, pulling 6-inch 3832 ft. Sligo Synd's Webb 1, 24-17-12, sd 2392 ft. Simms' Sandidge 2, 5-18-11, dk. Texas Co.'s Caplis 14, 24--16-12, dr 580 ft. Tubbs et al's Jacobs 1, 26-20-13, sd 1520 ft. Triangle Drlg. Co.'s Levy 1, 13-20-14, dk. Woodley & Collin's L. & A. 2, 14-23-12, arr to set 2½-inch tubing.

Caddo Parish—Big Lake Oil Co.'s Rhodessa 1, 23-23-16, arr to make Halliburton test 2615 ft. Bahan et al's Wilburn 1, 4-7-16, dk; Wilburn 2, 4-7-16, rig. Bethany O. & G. Co.'s Offenhauser 1, 1-20-16, dr 1750 ft. Berston's Murff 6, 12-21-16, dr 300 ft. Burford et al's Dambley 1, 2-20-16, sd 1648 ft Dixie Oil Co.'s Robertshaw 81, 13-21-15, dr plug 3727 ft; Robertshaw 83, 14-21-15, set 10-inch 42 ft; Robertshaw 85, 14-21-15, blg 1682 ft; Slattery 10, 27-21-15, coring 3791 ft; Noel A-2 ft; Noel A-2, 13-21-15, set 8-inch 3633 ft. Dodson et al's Rives 4, 5-20-16, dr 1640 ft. J. B. Files Payne 1, 35-23-16, dr 920 ft. A. C. Glassell's Thigpen & Herald 1, 26-18-16, dk. Gilliam Synd's Sellington 1, 27-21-14, sd 2732 ft; Taylor 1, 17-21-14, set 10-inch 160 ft. Gulf's Ferry Lake 266, 28-20-16, set 10-inch 145 ft; Ferry Lake 267, 28-20-16, rig. Haynes Bro.'s La. L. S. & P. 1, 8-19-16, sd 3712 ft. N. M. Handcock's Hampton 1, 15-21-15, dr 900 ft. Lewis Oil Corpn's Caddo M. L. Co. 8, 24-22-15, sd 1824 ft; Caddo M. L. Co. 9, 24-22-15, coring 1050 ft. Luby Oil Co.'s Caddo L. B. 14, 23-22-15, set 6-inch 988 ft. Magnolia's Caddo L. B. 2, 8-20-15, set 4½-inch 2910 ft; Dillon 16, 24-21-15, blg 1750 ft; Dillon 18, 24-21-15, dk; Dillon 19, 24-21-15, dr 105 ft; Doan-Thigpen 17, 6-20-15, set 6-inch 1390 ft; Planters 4, 7-21-14, dr 1950 ft; Robertshaw 20, 23-21-15, dr 2504 ft. H. H. Morris' Fields 1, 24-22-15, set 6-inch 1060 ft; Fields 2, 24-22-15, sd. Ohio's Murray 3, 28-21-15, set 6⅝ in. 1409 ft; Moodie Fortner 1, 5-22-16, dk. Owl Oil Co.'s Wilburn 3, 4-17-16, sd; Bell 1, 5-17-16, rig. Shreveport Oil Corpn's State 1, 28-21-16, dk; State 2, 27-21-15, dr 510 ft. Standard's Trosper 1, 34-18-16, dr 2250 ft; Stiles 177, 33-21-16, wosr 1833 ft; Stiles 178, 33-21-16, dk. Standish Oil Co.'s Allen 11, 23-22-15, rig. Texas Co.'s C. M. L. 47, 23-21-15, dr 3588 ft; Curtis 6, 14-20-15, dr 1862 ft; Glassell 2, 14-20-15, fsh 2960 ft; Hardy 1, 10-20-16, dr 2282 ft; Herndon 5, 14-21-15, dr 3443 ft; Herndon 6, 22-21-15, dk; Hicks & Payne 5, 21-21-15, dr 2784 ft; Harrell 56, 4-21-16, sd 2408 ft. Thomason et al's Muslow Fee 7, 31-21-15, set 4½-inch 2160 ft. Victor Wenzel's Thomas 3, 15-20-15, rig; Thomas 4, 15-20-15, dk.

Caldwell Parish—Humble's La. Central A-4, 12-11-2e, set 10-inch 68 ft. Victor Wenzel's Shaw 1, 22-14-4e, sd 1530 ft.

Catahoula Parish — S. D. Hunters' Tensas Delta 2, 21-9-n-7e, rig. Lochnager O. & G. Co.'s Beazley 1, 26-9n-6e, sd 3093 ft.

Claiborne Parish—Brown et al's Beard 1, 28-19-5, sd 2500 ft. El Dorado Chief Oil Co.'s McElwee 1, 13-22-7, (Formerly abd 3040 ft) washing to bottom. Magnolia's Lee 1, 16-22-8, dr 2878 ft. Mitchell et al's Wilburn 1, 23-19-7, sd 2220 ft.

De Soto Parish—Craige et al's Riggs 1, 27-15-13, dr 3006 ft. Dixie's Jenkins 1, 9-12-11, dr 5262 ft. Helm & Jarmen's Joyner 1, 28-12-11, fsh 3005 ft.

Franklin Parish — Exploration Oil Co.'s Moore 1, 12-11-6e, sd 2120 ft. Harrell & Hall's Duncan 1, 20-13-7e, sd 2057. Robinson & Long's Baker 1, 3-15-7e, sd 1443 ft.

Grant Parish—Gulf's Swope B-1, 1-9-1w, dr 35 ft; Swope B-2, 12-9-1w, rig. Paulette et al's Holmes 1, 17-9-1e, dr 1600 ft. Rue et al's Elias & Williams 1, 10-7-4w, sd 1300 ft.

Jackson Parish—Grigsby et al's Adams 1, 22-17-4w, sd 2900 ft. Houseman et al's Norton 1, 34-15-3w, sd 400 ft. Ferguson Trust's Martin 1, 3-15-1e, sd 3475 ft. Louisiana Pet. Co.'s Davis Lbr Co. 3, sd 2301 ft.

La Salle Parish — Modesette Drlg. Co.'s Urania 4, 7-10-2e, dk. Tunica Pet. Co.'s L. & A. 23, 9-7-2e, tested sw 779 ft; L. & A. 25, 8-8-3e, rig. Wingfield et al's Urania 6, 2-9-1e, sd 1400 ft.

Morehouse Parish—Cons. Carbon Co.'s White 1, 16-20-4e, dr 710 ft. Louisiana Dev. Co.'s Fee 38, 21-20-5, dk. Ouachita Co.'s Allison 8, 7-20-5e, set 6-inch 2171 ft. Standar's Interstate 4, 9-19-8e, dr 1544 ft.

Natchitoches Parish—Gulf's Cobbie & Hardaman 1, 9-7-7w, lcn. Lawson et al's Clark & Morse Lbr. Co. 1, 23-5-6w, sd 2528 ft. Ohio's L. & A. 1, 23-13-6w, dr 2856 ft; Thomas 1, 23-13-6w, lcn. Reidheimer et al's Wafer 1, 3-11-8, dr 370 ft. Three League Oil Co.'s Long 1, 34-10-8w, rig. Tunica Pet. Co.'s L. & A. 24, 35-13-6w, dr 1000 feet. Wenzel et al's Brown 1, 38-10-7w, dk.

Ouachita Parish—Easterling et al's Sicard 1, 18-18-4e, dr 2070 ft. La. Dev. Co.'s Fee 37, 10-19-5e, dr 2138 ft; Fee 38, 1-19-4e, dk; Fee 39, 1-19-4e, dk. Natural Gas Prod. Co.'s Bur-

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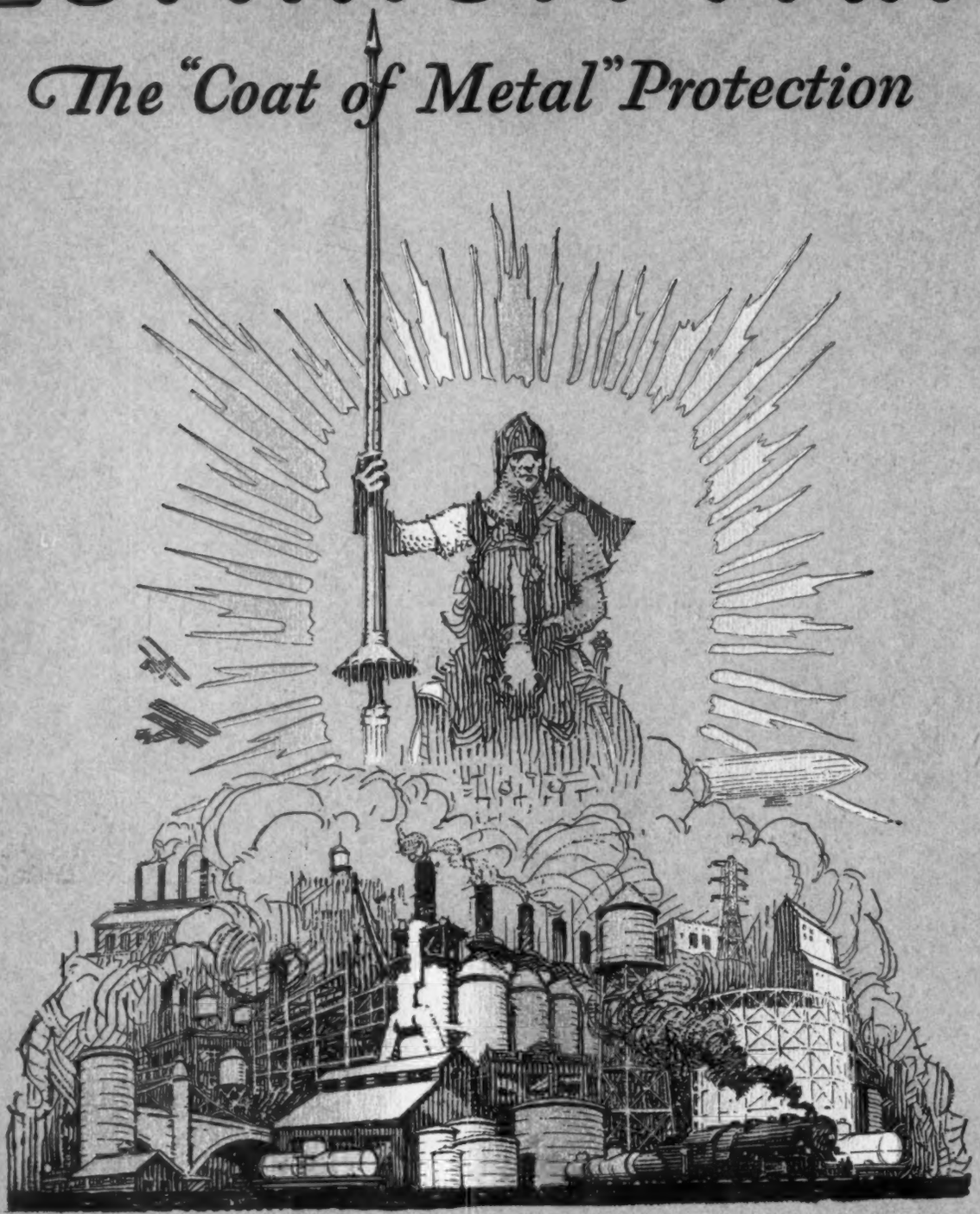

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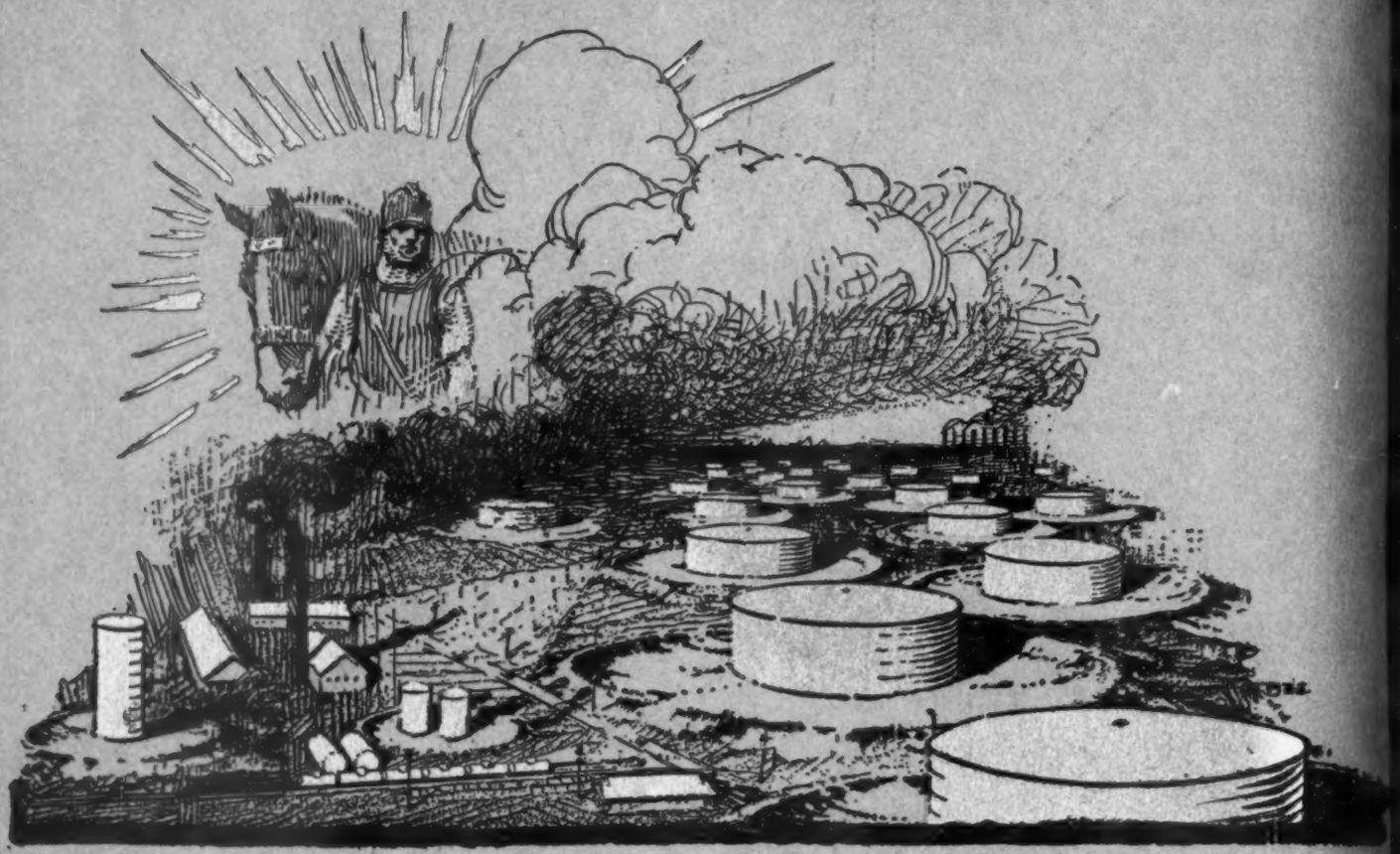

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ton 1, 26-20-4e, set 6-inch 2126 ft. Ouachita Co.'s D'Arbonne 2, 25-19-2e, sd 2780 ft. Peerless Co.'s Moore 3, 29-20-4e, lcn. Southern Carbon Co.'s Ladell 5, 2-19-4e, dr 2130 ft.

Rapides Parish—Hencey et al's Barrow 1, 29-5-2e, sd 2800 ft. Minnesoto Oil Corpn's Wattermack 1, 7-5-3w, sd 1718 ft. Libuse Oil Co.'s Voda 1, 14-4-1e, sd 2550 ft.

Red River Parish—Alden Oil Co.'s Powell 1, 13-11-10, sd 2301 ft. Amerada's Long Bell 1, 5-13-9, sd 1310 ft. Gulf's Robinson 37, 25-13-11, set 6⅝-inch 2485 ft. Magnolia's Continental Pelly 24, 6-12-10, dr 2143 ft. Phillips Pet. Co.'s Long Bell 1, 16-12-8, dr 1800 ft. Texas Co.'s Brinkerhoff B-25, 30-13-10, dr 2518 ft.

Richland Parish—Gulf's Rhymes 2, 5-16-6e, dr 400 ft; Wayne L. & T. 1, 36-17-5e, coring 2352 ft; Marshfield S. & T. Co. 1, 30-17-6e, dr 2378 ft; Seibert 1, 35-17-5e, dk; Seibert 2, 11-16-5e, dk. S. D. Hunter's McCoy 1, 29-16-5e, blg 2319 ft; Seibert 1, 1-16-5e, sd 2358 ft. Louisiana Pet. Co.'s Binion 1, 22-17-6e, sd 2475 ft. Oliver et al's Hatch 1, 2-15-5e, arr to set casg 2316 ft. Ruston Drlg. Co.'s Earle 1, 5-16-6e, dk; O'Neil 1, 35-17-6e, dr 2500 ft. Stovall Drlg. Co.'s Mitchell 1, 20-17-6e, set 8-inch 915 ft. Standard Drlg. Co.'e Delta H. L. Co. 1, 22-16-7e, set 12½-inch 160 ft. Tex-La Carbon Co.'s Broughton 1, 1-15-6e, dr 2069 ft.

Sabine Parish—Arkansas F. O. Co.'s Logan 2, 28-10-12, rig; Logan 3, 33-10-12, arr to drill plug in 6⅝-inch casing 3100 ft; Logan 4, 33-10-12, arr to set casing 3100 ft; Logan 5, 28-10-12, arr to set casing 3100 ft. Beckman & Freeman's Logan 1, 28-10-12, dr 75 ft. Emlet et al's Bowman Hicks 5, 11-7-14, sd 4070 ft; Bowman Hicks 7, 11-7-14, arr to make Halliburton test 2623 ft; Sabine Lbr. Co. 1, 8-7-1e, dk. Greer & Moffitt's Moore 1, 5-9-12, dr 1740 ft. Lewis Clark Pet. Co.'s Wyatt 1, 23-5-12, sd 3140 ft. Magnolia's L. L. L. Co. 1, 11-6-11, dr 3035 ft; Hall 1, 33-10-12, dk. Ohio's Cook 1, 34-10-12, dr 2665 ft.

Union Parish—Camette et al's Tugwell 1, 21-22-1e, sd 1365 ft. Clark Creek Pet. Co.'s Frost-Johnson 2, 9-23-1e, sd 2307 ft. Interstate N. G. Co.'s Parks 1, 23-20-3e, dk. Natural Gas Prod. Co.'s Trimble 1, 7-20-4e, trying to set liner 2120 ft. Rhodes et al's Futch 1, 28-23-2w, sd 1970 ft. United Carbon Co.'s Raburn 1, 28-21-4e, dr 2110 ft. Ruston Drlg. Co.'s Gulley 1, 16-20-4e, set 8¼-inch 900 ft.

Webster Parish—Davis et al's Lee 1, 22-22-9, sd 2834 ft. Louisiana O. R. Corp.'s Davis 1, 23-21-10, set 6¼-inch 4200 ft. Magnolia's Robbins A-2, 21-21-10, dr 2329 ft. Northwest Louisiana Gas Co.'s Coyle 1, 21-21-10, dr 1600 ft. Ohio's Bank of Cotton Volley 2, 22-21-10, dk; Bank of Cotton Valley 4, 22-21-10, swedging 6-inch casing 2672 ft. Woodley Pet. Co.'s Cox 1, 22-21-10, set 6⅝-inch 4233 ft.

Winn Parish—Cherokee Pet. Co.'s Albritton 1, 27-10-1e, sd 900 ft. Dodge et al's Tremont 1, 35-13-3w, sd 1042 Ft. Greer et al's Bodcaw 1, 9-11-4w, dr 3110 ft. J. C. Long's Milam 1, 26-13-3-w, sd 1450 ft. Ohio's Edenborne 2, 4-12-1w, dr 4340 ft. Rowe et al's Urania 1, 26-11-1e dk. F. A. Schuman's Albritton 1, 27-10-1e, sd 1518 ft. Standard's Tremont 1, 1-12-2w, dr 3527 ft.

SOUTH LOUISIANA
COMPLETIONS

Company, Well and Location	Initial Production Bbls.	Depth
Iberia Parish—		
Gulf, State Z-1, ...	40	1162

DRILLING REPORT

Assumption Parish—Union Sul. Co.'s Parish School Board 1, fsh dr stem 949 ft.

Calcasieu Parish—Union Sul. Co.'s Fee 720, Sulphur, dr 3883 ft gbo. Border Research Corp's Calcasieu Rake 1, coring sand 3610 ft. Luther-Moore 5, Stark Dome, dr 3000 ft gbo; Industrial Lbr. Co. 1, Stark Dome, rig.

Cameron Parish—Yount-Lee's Gulf Land 10, dr 3100 ft. rk; School Land 6, dr 4510 ft rk; Stateland 4, dk. Border Research Corp's Mallard Bay 1, no report; Sabine Lake 1, sd. Union Sul. Co.'s Gulf Land 2, Hackberry Island, lcn; Gulf Land 3, Hackberry Island, dr 403 ft shale; R. Vincent 2, Hackberry Island, dr 1491 ft rk; Little 1, 29-12s-10w, fsh dr stem 1799 ft.

Evangeline Parish—Texas' Guillory 2, Pine Prairie, set 4100 ft 6⅝-inch cas to test 30 ft oil sand 4200 ft.

Jeff Davis Parish—Elton Oil Co.'s Buller 1, sd 2065 ft. Estropal Oil Co.'s Duex 2, no report. Fred Getty's Lacasine Irri, dr 3392 ft blue gbo.

Iberia Parish — Gulf's Broussard 1, Eagle Point, temp. sd 3193 ft; State Z-1 Eagle Point, pumping 40 bbls oil 400 bbls water 1162 ft; State Z-2, Eagle Point, lcn. Calcasieu Oil Co.'s Schwing A-1, Eagle Point, dr 2265 ft gbo. Border Research Corp's Vermillion Bay 1, dr 535 ft shale.

St. Landry Parish — Bristol O. & G. Co.'s Breaux 1, sd 3015 ft. Terre Bonne Gas Co.'s Whitman 1, sd 2065 ft.

St. Martin's Parish — Rycade's Atchafalaya 1, dr 3739 ft sand rk. Ohio Oil Co.'s Martin 1, sd.

St. Mary Parish — Border Research Corp's Grand Lake 1, sd 4207 ft; West Cote Blanche 1, set 80 ft 16-inch cas.

MOUNTAIN STATES
WYOMING

C. C. Carroll Syn.'s Moorcroft 1, sw 5-51-67, sd 803 ft. Graybeal Syn.'s Graybeal 1, 16-28-81, fsh 3131 ft. Osage Trust Co.,'s 1, se 29-49-64, Crook County, dr 1325 ft. Texas Prod. Co., 7, Maverick Springs, 26-6-101, dr 1465 ft; 1, La Barge, 15-26-113, dr 600 ft. Union's 1-C, Fremont County, ne 15-5-1, dr 4375 ft; 1-S, Black Mountain, nw 34-43-91, dr 3872 ft; 1-B, Black Mountain, nw 28-43-91, dr 2600 ft; 1-T, Park County, nw 22-47-101, dr 700 ft. Bridger Oil Co.'s 1, Sage Creek, se 21-1-1, sd, td not given. Elkhorn Oil Co.'s 1, La Barge, nw 7-28-11, sd 3202 ft. Willington Oil Co.'s 1, Sweetwater County, nw 18-25-98, sd 2540 ft. John Ackard Syn.'s 1, Converse County, ne 28-31-69, sd 2095 ft. Carter's Nowood 1, sw 5-48-90, setting 5 3/16 cas 1820 ft; 2, Billy Creek, se 17-48-82, cor, td 4400 ft. P. & R. Corp.'s Murphy 1, 8-43-91, fsh 2990 ft; Medicine Bow 1, 25-21-79, dr 3700 ft; Muskrat 1, 34-34-92, rig completed; Big Sand Draw 5, 10-32-95, dr 3410 ft; Big Sand Draw 7, 14-32-95, dr 2720 ft; Garland 2,24-56-89, sd 2640 ft; Tensleep 1, 13-46-89, rig completed. Ohio's Byron 2, 33-56-99, trying to connect cas, td 2480 ft. Platte River Drilling Assn.'s Guernsey 1, nw 12-26-67, may abn, td not given. M. P. Wheeler et al's 1, se 13-33-80, Natrona county, sd 1330 ft. Tarrant Synd.'s Steele Creek 2, ne 17-46-62, sd 3545 ft. A. E. Jacobs et al's Grayrocks dome 1, nw 13-25-66, dr 1270 ft.

COLORADO

Northeastern Col. Oil Co.'s 1, Logan county, 36-8-55, ur 2620 ft, td 2640 ft. Repollo Oil Co.'s 1, Boulder county, 33-1-70, dr new hole, td 4240 ft. Texas Co.'s 1, Moffat County, 27-3-94, co 3175 ft, td 3310 ft; 2, Rio Blanco County, 30-2-102, dr 3010 ft. Essok Oil Co.'s 1, Boulder County, 5-1-70, dr 2335 ft. Left Hand Oil Co.'s 1, Boulder County, 34-3-70, dr 1521 ft. Phillips Pet. Co.'s 1, El Paso County, 27-16-65, wosr. Uncle Joe Oil Co.'s 1, Fremont County, 35-18-70, dr 125 ft. Midwest's 2, Rio Blanco County, 32-2-102, cmt 2955 ft. Oiliferous Oil Co.'s 1K, Fremont County, 35-18-70, dr 100 ft; 1L, 36-18-70, dr 775 ft. Lamb & Wilson's 1, Fremont County, 28-18-70, lcn. Columbia Hgts. Oil Co.'s 1, Pueblo County, 16-21-65, sd 1485 ft; 1, Fremont County, 28-18-70, wosr. Phillips-Middleton Pet. Co.'s 1, De Baca County, 26-34-48, ur 1750 ft. F .E. Kistler & Co.'s 1, Boulder County, 28-2-69, dr 100 ft. Foley & Coldworthy's 1, Las Animas County, 11-30-60, dr 955 ft. Retter Oil Co.'s 1, Weld County, 11-1-66, dr 1075 ft. Continental's 1P, Walden, 2-8-76, dr 150 ft. Lee Stock's 1, Fremont County, 35-18-70, wosr.

NEW MEXICO

Senate Oil Co.'s 1, San Juan County, 34-29-11, fsh 1730 ft. Cap Rock Oil & Gas Co.'s 1, Lea County, 11-16-32, dr 740 ft. Delmar Oil Co.'s 1, Chaves County, 22-11-26, dr 1725 ft. Mid-Continent 1, Eddy County, 21-17-30, dr 3175 ft. Portage O. & G. Co.'s 1, San Juan County, 24-30-11, dr 1935 ft. Prairie's 1, Eddy County, 10-17-31, sd 3870 ft. Exploration Co.'s 1, Lea County, 15-21-33, ur 1857 ft. Mid-Continent's 1, San Juan County, 22-29-11, dr 475 ft. Texas Co.'s 1, Chaves County, 29-17-18, dr 3129 ft. Midwest's No. 1, Quay County, 30-8-31, co 1000 ft.

UTAH

Boulder Knoll O. & G. Co.'s 1, Boulder Knoll, 17-34-24, sd 1897 ft. Utah-Southern Oil Co.'s 1, Cedar Mesa, 28-40-18, dr 1878 ft. Union's 1, Lisbon, 16-30-26, lcn. Embar Oil Co.'s 1, Moab, 34-25-21, dr 3091 ft. Midwest's 1, Cane Creek, 5-27-21, testing formation, td 700 ft.

TEXAS
PANHANDLE WILDCATS
COMPLETIONS

Company, Well and Location	Initial Production Bbls.	Depth
Lamb County—		
Wentz-Marrs & Taliaferro, Yellowhouse Ranch 1, ...	*	4240
Swisher County—		
Keagan-Baker, Stallings 1	*	500
Hartley County—		
W. H. Holmes et al, C. B. Coots 1 ..	*	2990
Roberts County—		
Gibson Oil Corp, T. S. Jones 1	*	4010
Sherman County—		
Phillips Pet. & Savoy Oil Co., Roach 1	*	3810

EAST CENTRAL TEXAS WILDCATS
COMPLETIONS

Company, Well and Location	Initial Production Bbls.	Depth
Falls County—		
Cranfill-Reynolds Oil Co., B. H. Stiles 2	*	1225
Hopkins County—		
Amerada Pet. Corp., Jackson-Malone 1	*	3250
Limestone County—		
Transcontinental, Richardson 1	*	3175
Navarro County—		
The Texas Co., Byron Cheney 1-B	*	3152

DRILLING REPORT

Bell County—Stanfield et al's Garrett 1, sd 925 ft.

Ellis County—Farrish-Watts & Collins' M. Rachel 1 (trinity sand tent), rig.

Franklin County—L. E. Trout et al's O. W. Gandy 1, sd 2015 ft.

Freestone County—J. S. Cosden et al's J. S. Cosden et al's J. E. Woods 1, dr 4210 ft. Humble's Ella Dodd 1, co 3035 ft. Payne & Bonds' F. A. Coleman 1, dr 2940 ft.

Hill County — Killiam & Phillips, T. B. Findley 1, fsh 785 ft.

Hunt County — Amerada Pet. Corp.'s W. Granier 1, rig.

Limestone County—Alexander-Lyles et al's Sharp 1, sd 3175 ft; V. C. Strother 1, dr 2890 ft. C. W. Green et al's A. M. Beal 1, dr 3480 ft. Kossee Synd.'s Jones 1, sd 3035 ft; Fenner 1, sd 2920 ft. W. J. Lewis et al's Lewis 1, lcn. Magnolia's J. R. Stroud 4-O, top chalk 2375 ft, dr chalk 2405 ft. J. H. McCarty et al's W. M. Brown 1, Austin chalk at 2250-2630 ft, coring 3010 ft; 2, dk. Pandem Oil Corp. & Harrison's H. F. Bassett 1, (Trinity sand test) changing back to rotary account water, 4383 ft. E. L. Smith Oil Co. et al's Jake Steubenrauck 1 (Trinity sand test), dr 5100 ft. F. P. Zoch & Marland's A. P. Maddox 1, dr 2910 ft.

Navarro County—Garland Kent's Hardy 13, water trouble 1679 ft; Hardy 14, dr 1250 ft. Magnolia's Corrie Marshall 1, dr 3620 ft; Hardy 2-A, sd 1690 ft; Hardy-Halbert 2-B, dr 1685 ft; Stout 1, dr 2375 ft. Bill Reiter et al's G. A. Stubbs 1, showing oil and water 3024-38 ft. Sun Oil Co.'s H. A. Swink 1-C (Trinity sand test) fighting cavey hole with rotary, td 5415 ft.

Upshur County—Magnolia Pet. Co.'s Cannon 1, rig.

Van Zandt County—B. P. Hervey et al's P. Smith-Foster 1, Austin chalk 2555-2790 ft, dr 3400 ft.

SAN ANTONIO DISTRICT

Bexar County—McClanhan's Sodrok 3, dr.

Caldwell County—Fred Adams et al's Walter Ellison, Richard sur, sp. United North & South's Kelley 1, dr; Tiller 1, dr.

Duval County—Associated Oil Co's Suther-

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Gonzales County—Martin Oil Co.'s Preston 1, dr. Kerchival et al's Billings 2, sp.

Kleberg County—Humble's Kleberg 3, dr; Kilvin 1, dr; Flato 1, dr. Texas Co.'s 1, dr. Witherspoon Oil Co.'s 1, dr.

Medina County—Alamo Drilling Co.'s Kenedy 1, dr. Pat Armstrong's Lacey 1, dr. Arnett Oil Co.'s Nixon 4, dr; Nixon 5, dr. Carl Switzer's Zerr 1, dr. California-Medina Co.'s Rothe 1, dr. Fennell et al's 1, sur 115, dr. Gibson & Walsh's Ottem 1, dr. C. E. Lange's Adams 2, set cas. Medina Oil Co.'s Taylor 11, dr 250 ft. Medina Syndicate Co.'s Mitchell 2, dr. J. A. Swaye's Oeffinger 1, dr. Western Gas & Fuel Co.'s Adams 4, dr 485 ft. Witherspoon Oil Co.'s Redus 2, set cas at 910 ft. F. L. Williams' Fohn 2, dr 770 ft. Wheless & Peters' Berger 1, dr 1150 ft.

Zapata County—Buffalo-Erie's Martinez 3, lcn. Charco Rendondo Oil Co.'s Garcia 65, dr; Garcia 66, dr. Hill & Associates' Villa Grant 1, dr. O. W. Killam's Lange 1, dr. Duek Langford's Charco Rendondo 1, dr; Martinez 3, dr. Howard Staggs et al's Hinnants 1, dr. Mission Oil Co.'s Slator 1, dr. Magnolia's Jennings 5, lcn; Cuellar 4, lcn.

WEST TEXAS
COMPLETIONS

Company, Well and Location	Initial Production Bbls.	Depth
Glasscock County—		
Plateau Oil Co. et al, L. S. Taylor 1	*	3201
Winkler County—		
Gulf Prod. Co., T. G. Hendricks 1	4300	2842

DRILLING REPORT

Andrews County — Carter-Zweifel et al's Cowedn 1, dr 1355 ft. J. S. Cosden et al's Ratliff-Bedford 1, lcn. Calvin-Belt et al's Ratliff-Bedford 1, lcn. Deep Rock Oil Co.'s W. J. Harris 1, lcn. Maer-Staniforth's W. S. Taylor-Meador 1, dr 1055 ft. C. B. McKinnon et al's J. S. Means 1, machine.

Borden County—Stivers & Guthrie's Snodgrass 1, rig.

Coke County—Lipan Oil Co.'s S. M. Conner 1, elev 2045 ft, dr 245 ft.

Concho County—Harry Adams et al's Price 1, machine. Arkansas Fuel Oil Co.'s Hartgrove 1, sd to test oil sand 2165 ft. Asso. Pet. Co.'s Sam Waring 1, elev 2085 ft, fsh 2300 ft. Gene Mays et al's Hartgrove 1, sd making gas and water, td 1550 ft. Exploration Co.'s Wilson-Hartgrove 1, elev 1618 ft, sd 1675 ft. J. R. Lewis et al's Plants 1, lcn. Marland's Sansom 1, sd 1650 ft. Mullens-Davis et al's Martin 1, dr 2210 ft.

Crane County—Church & Fields' University 2, rig; University-Duoll 1, lcn. Church & B. F. Weekly's University 1, top salt 1070 ft, dr 2575 ft. Carl Cromwell & Frank Pickrell's University 1, elev 2561 ft, top salt 1015 ft, dr 2400 ft. W. E. Duffey et al's Cowen 1, sd 3250 ft. Eastland Oil Co. & Collett-O'Keefe's University 2, dr 1635 ft; University 3, 5, 6 and 7, lcns; University 4, top salt 1041 ft, set 6⅝ in. 2776 ft; University 8, top salt 1115 ft, set 6⅝ in. 2810 ft. Gulf. Prod. Co.'s Crier-McElroy 6, rig; Crier-McElroy 4-A, rig; J. T. McElroy 8, dr 460 ft; McElroy 9, dr 450 ft; McElroy 1-B, top salt 1220 ft, set 8¼ in 2190 ft; University 3, elev 2599 ft, top salt 1160 ft, dr 3470 ft; University 4, elev 2609 ft, top salt 1195 ft, dr 2890 ft; University 5, top salt 1220 ft, dr 2060 ft; University 6, top salt 1210 ft, dr 2230 ft; University 7, top salt 1235 ft, dr 2080 ft; Waddell 1-A, sd 753 ft. Humble's University 2, elev 2570 ft,

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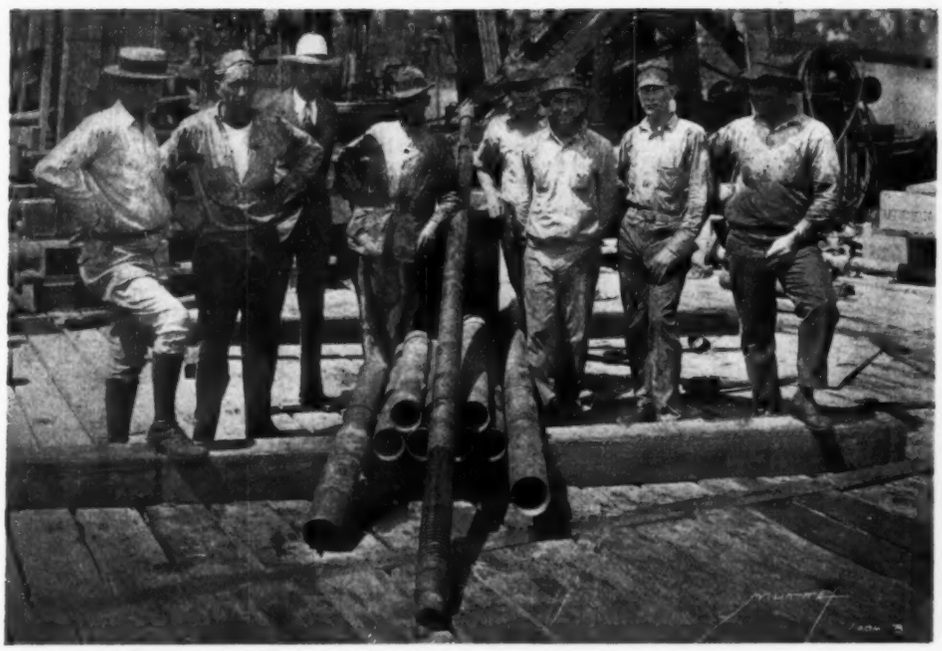

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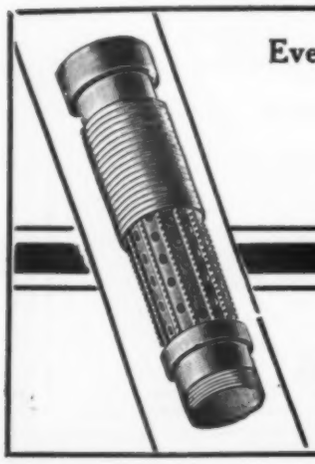

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Crockett County—V. T. Bolin & Co.'s P. O. Coates 1, sd for gas 930 ft. Cumberland O. & G. Co. et al's Couch 1, sd 2705 ft. W. W. Donnelly & J. D. Young's Pierce 1, elev 2105 ft, dr 740 ft; Shannon 1, machine. Geo. A. Henshaw, Jr., & Co.'s University 1, elev 2297 ft, top salt 450 ft, show oil and gas 1100-15 ft, dr 1175 ft. J. K. Hughes Dev. Co.'s Powell 2-B, fsh 2535 ft. Magnolia's Shannon 2, elev 2670 ft, top salt 925 ft, top lime 2270 ft, dr 3085 ft. Wm. Schaffer et al's University 2, lcn. World Oil Co.'s Schneeman 1, elev 2632 ft, top salt 1035 ft, top lime 2280 ft, dr 2520 ft. P. H. Williams et al's Powell 1, spudding. J. D. Young & Cromwell's University 1, sd 1750 ft.

Crosby County—El Capitan Oil Co.'s Slaton-Robertson 1, elev 2854 ft, top salt 1270 ft, sd 2590 ft.

Culberson County—Jas. H. Gardner et al's Radford-State, 1, sd 295 ft.

Jeff Davis County—Humble's C. Flores 1, lcn. J. K. Hughes Dev. Co.'s Means 1, sd 1700 ft.

Ector County—J. S. Cosden et al's Connell 2-A, spd and sd; Connell 3-A, lcn.

Fisher County — Barbour Oil Co.'s W. A. Cross 1-A, dr 1080 ft. California Co.'s Anderson 1, co 3070 ft; Magenheimer 1, elev 2004 ft, bailing water 3279 ft. Hucony Gas Co.'s Langford 1, set 6⅝ in. on show oil 2822 ft. Ideal Oil Co.'s Jameson 1, dk. Marland's Hodges-Rochelle 1, dr hfw 3245 ft. Marland & Texon Oil & Land Co.'s McCall 1, lcn. Fred Phillips et al's C. M. Webb 1, elev 1811 ft, dr 2660 ft. R. W. Rainey et al's Marberry 2, sd 2725 ft. Sinclair's J. A. Denise 1, sp; Stearnes & Streeter's W. A. Howe 1, sd 2450 ft. F. P. Zoch & McCamey's Clayton 1, elev 2135 ft, dr hfw 3315 ft; Lanils 1, dr 3245 ft.

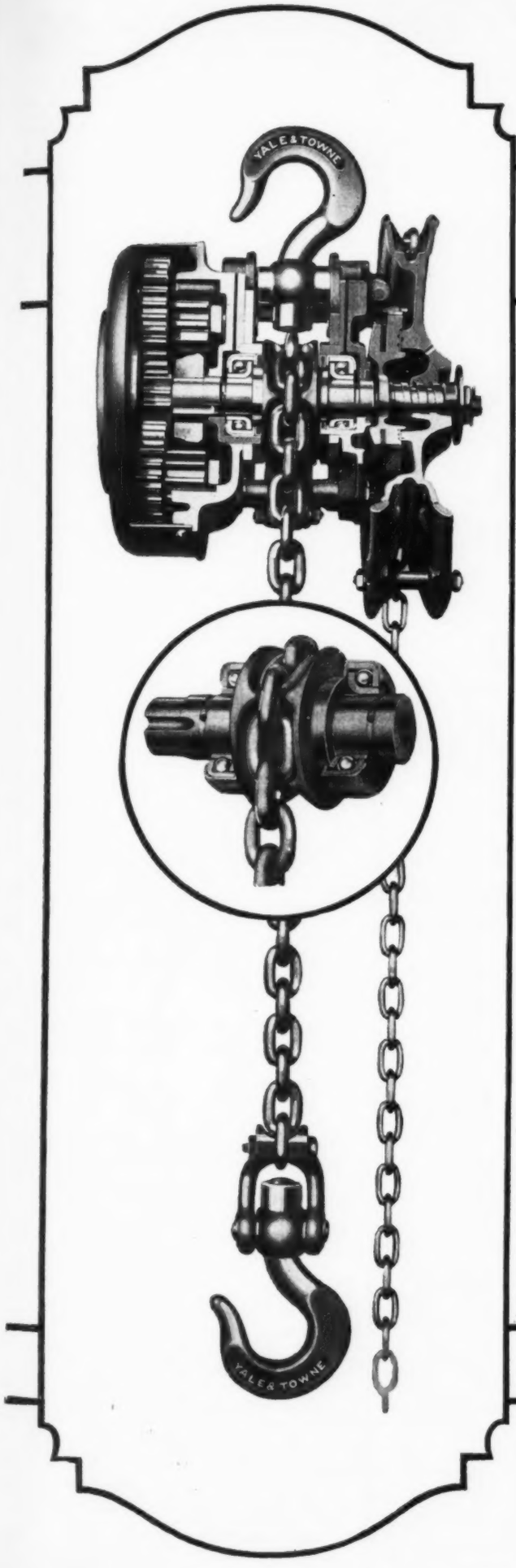
Garza County—Emerald Oil Co.'s Boren 1, dr 1755 ft. Pandem Oil Corp.'s Justice 1, rig.

Glasscock County—Green et al's Oxshear 1, rig. Marland & Texon's Settles 1, elev. 2646 ft, testing oil pay 1230-63 ft. J. S. Merriwether et al's McDowell 1, lcn. R. R. Penn et al's Edwards 1, materials.

Tom Green County — Marland's Llano County Fee 1, dr 620 ft. Fitzgerald & Taliaferro's Bennett 1, lcn.

Hockley County—El Capitan Oil Co.'s Ellwood 1-A, sd 720 ft.

Howard County—Bowers et al's C. Jones 1,



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sp and sd. Bristow & Merrick's A. J. Hooks 1, co after shot 40 qts at 1792-1809 ft; Hooks 2, spd and sd; Hooks 3, sp. Carey et al's Chalk 1, sd 250 ft. Comet Pet. Co.'s Clay 1, co after shot 30 qts 1810-31 ft. Dixie Oil Co.'s Clay 1, missed regular pay, dr 1940 ft. W. W. Donnelly & Mann's Martin 1, sp. Francis et al's Furrh 1, lcn. L. C. Harrison et al's Roberts 1, spd and sd. Humble's Douthitt 3, rig. Lockhart & Co.'s Chalk 3, sd 875 ft; Chalk 2-A, dr 1100 ft. Magnolia's Hyman-Chalk 3, lcn; Mary-Chalk 4, dr 1250 ft; Kelly-Chalk 1, fsh 540 ft; Kelly-Chalk 2 and 3, rigs; G. O. Chalk 5 and 6, lcns; Owen-Chalk 5-A, lcn; Owen-Chalk 7-A, dr 1260 ft; Owen-Chalk 8-A, ur 8¼ in. 1170 ft; Sloan-Chalk 1, dr 1485 ft; Sarah-Hyman 3, lcn; Roberts 1, lcn. Marland's Brite 1, elev 2568 ft, top salt 1285 ft, fsh hfw 3490 ft; Chalk 9, lcn; Chalk 10, coring 1613 ft; Chalk 5-A, set cas 1550 ft; Chalk 6-A, dr 1490 ft; Chalk 7-A, dr 1520 ft; Chalk 8-A, rig; Chalk 1-C, elev 2424 ft, dr 1815 ft; Chalk 1-E, sd in pay 1678-88 ft; Clay 2, dr 1750 ft; Clay 3, sd 1701 ft; Clay 4, dr 925 ft; Clay 5, dr 1600 ft; Clay 3-A, dr 1590 ft; Clay 4-A, dr 1485 ft; Clay 5-A, sp; Clay 1-C, show oil 1652 ft, dr 1755 ft; Clay 1-D, ‡ 1765 ft, dr 1870 ft; Harding 1, top salt 1146 ft, dr 1830 ft. Mid-West Exploration Co.'s Clay 1, rig. Reeves & Apperman et al's Clay 2, dr 1235 ft. Pure Oil Co.'s Chalk 1 and 2, lcns; A. J. Hooks 1, lcn. Tidal Oil Co.'s Chalk 1 and 2, lcns. F. P. Zoch & Marland's Guitar Ranch 1, rig.

Irion County—Cashdollar-Whitmire's Bird-Roberts 1, elev 2065 ft, sd 945 ft; Abe Meyer 1, elev 2050 ft, dr 2500 ft.

Jones County—Atlantic & Landreth's Howell 2, fsh 1340 ft. Bateman & Campbell's Southard 1, sd 1790 ft; Woodson 1, lcn. Gault Brown et al's Mrs. Zips 1, materials. E. P. Campbell et al's Herndon 1, sd 1860 ft. Cole-Hart et al's Cranston 1, ur 2835 ft. Consolidated Oil Co.'s Armand-Taylor s, sd 1510 ft. Garland & Diamond's Glynn 1, lcn. Hurley Oil Co.'s (Gibson-Johnson) Sears 2, dr 1855 ft; Largent 1, sd 2460 ft. Gillette & Hickey's S. W. King 1, sd 2070 ft; M. E. Young 1, sd 1200 ft. Grisham-Hunter & Wildman Pet. Corp.'s Burchfield 1, elev 1820 ft, sd 2960 ft; Williams 1, sd 2660 ft. Hutson-Weaver et al's Smith 1, sd 700 ft. Kirk & Brewer's Milsap 1, sd 575 ft. Marland Oil Co.'s Larsen 1, sd 2020 ft. Marsten Oil Co.'s Howell 1, dr 2215 ft; Swann 1, rig. Mid-West Explo. Co.'s Thornton 3, ur 2245 ft; Thornton 4, dr 2410 ft. Mid-Continent Pet. Corp.'s H. Evans 1, dr 2280 ft. Vic H. Martin et al's Culberson 1, dr 3175 ft. McLester et al's Will Myatt 1, dr 2380 ft. Muse-Roberston et al's Manly 1, sd 2070 ft. Stebbins O. & G. Co.'s J. M. Higgs 1, dr 1230 ft. W. G. Stough et al's J. P. Willis 1, sd 730 ft. Phillips Pet. Co.'s Howell 1, lcn; Winters 3 and 4, rigs; Thornton 1, co 2818 ft; Tessie-Walling 4, rig; 5 lcn. Sensondale Oil Co.'s Canton 1, sd 435 ft. J. L. Tonberlin et al's Clapp 1, masterials. World Oil Co.'s Clark 1, dr 2790 ft; Lee-Boyd 1, dr 2005 ft. Zeigler et al's J. W. Reeves 1, sd 1505 ft.

Kent County—Douglas Oil Co.'s Scoggins 1, sp. Marland & Texon's Bilby 1, lcn.

Kimble County—Dixie Oil Co.'s Harrison 1, sd 3040 ft.

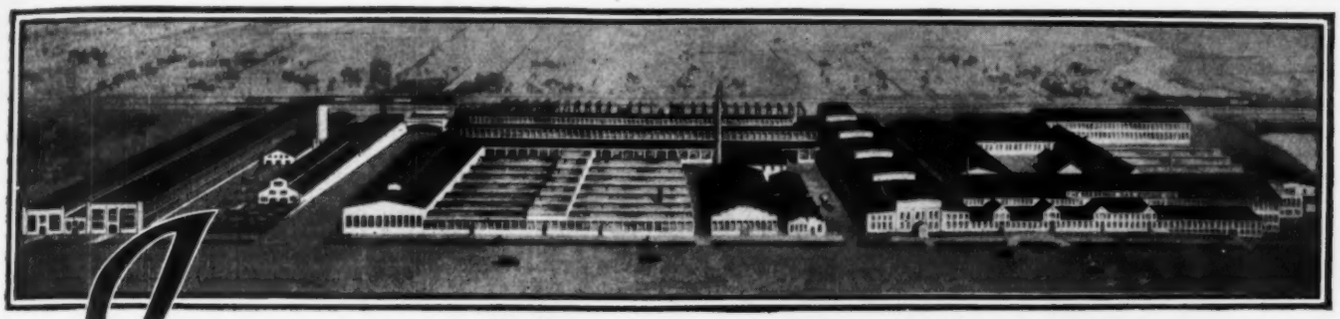
King County—Gibson-Johnson et al's Burnett 1, spd and sd. Mid-West Explo. Co.'s Patton 1, rig. Phillips Pet. Co.'s Burnett 1, dr 1025 ft. Sinclair's Burnett 1, spd and sd. J. L. Pattison et al's Patton 1, sd 1280 ft. White Eagle O. & R. Co.'s Burnett 1, dr 620 ft.

Loving County—Owen-Sloan et al's Johnson 1, lcn. Kingwood Oil Co.'s Moore 1, lcn.

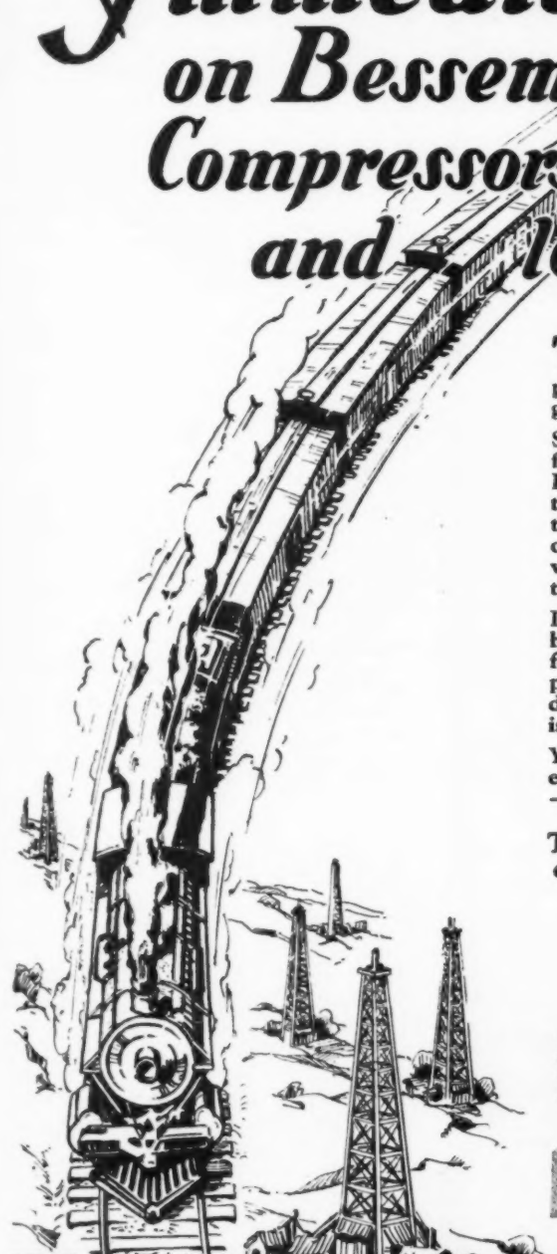
Menard County—Clark et al's Kothman 1, sd 570 ft. Elliott & Lewis' White 1, sd 310 ft.

Mitchell County—Magnolia's Mary Foster 2, dr 2545 ft; J. L. McKenney 1, dr 890 ft; W. W. Watson 2, dr 2550 ft. Morrison-Thompson's Griffin 1, dr 2405 ft. Paul Teas et al's Ed. Strain 1, dr 1005 ft. Teas & Stivers' Hardee 1-A, sd 3500 ft. Robert Thraves et al's C. Way 1, rig. B. E. Walters et al's Dollen 1, sd 3600 ft.

Nolan County—Day et al's Arledge 1, lcn. A. G. Malone et al's Carlyle 1, lcn; McElmurray 1, rig. Herbert Oil Co.'s Pepper 1, rig.



Immediate delivery— on Bessemer Type Ten Compressors—for both high and low pressure work



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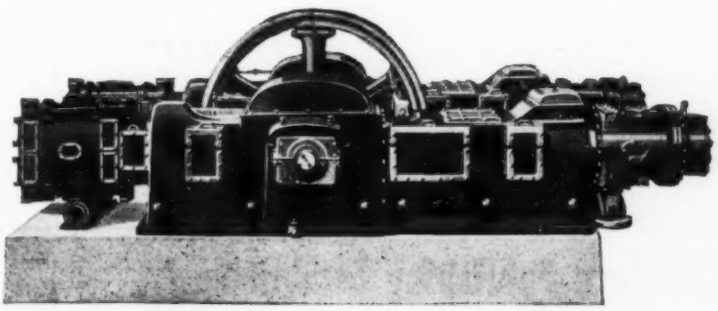

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Phillips Pet. Co.'s Scott 1, dr 180 ft. Thomas & Reynolds' Allen 1, ur 835 ft. Stein & Greeben's L. W. Ross 1, lcn. Walford et al's H. D. Simpson 1, lcn. John H. Winemiller Corp.'s W. L. Booth 1, dr 770 ft. Henry Zweifel & Hofmeier's Longbotham 1, dr 1015 ft.

Pecos County — Arkansas Fuel Oil Co.'s Manly Holmes 1, dr 395 ft. Buell-Hagan et al's Jasper County Fee 1, lcn; Southern Life-Batchelor 1, dr 1950 ft; University 1, elev 2816 ft, top lime 1935 ft, sd 2700 ft; McKenzie 1, rig. Carl Cromwell & Kimberlin's Blackman-Scharff 1, elev 2402 ft, top salt 890 ft, dr 1120 ft. T. R. Cowell's J. C. Trees 1, elev 2545 ft, top lime 2875 ft, sd hfw 3110 ft. California Co.'s Cordova Union 1, elev 2615 ft, top salt 834 to 850 ft, dr 905 ft. Crosby Drlg. Co.'s I. G. Yates 1, hfw at 930-40 ft, dr 990 ft. John Droppleman et al's Mrs. Hersheusen 1, dr 175 ft. Del Rio Drilling Snyd.'s Perry 1, prob junked, td 740 ft. Garland & Mott's El Paso Cattle Fee 1, lcn. Kershaw & Livingston's Cannon 1, lcn. Humble & Kirby Pet. Co.'s Rheinstrom 1, elev 2351 ft, top salt 830 ft, dr 1525 ft. Mid-Kansas & Transcontinental Oil Co.'s I. G. Yates 3-A, elev 2379 ft, top lime 992 ft, flowing 1050 bbls oil at 1000-82 ft; Yates 4-A, rig; Yates 1-C, lcn; Smith-Taylor 1, lcn. Texon Oil & Land Co.'s Yates 1, sd 1300 ft; Yates 2 and 3, lcns. Texon & Marland's Blakesley 1, rig. Quinby Oil Co.'s A. A. Gray 1, dr 205 ft; Bennett 2, dr 1405 ft; Townsite 1, sd 3435 ft.

Presidio County—Hadlock & Miller's Tootle 1, co 2255 ft.

Reagan County—The Texas Co.'s J. D. Sugg 2, elev 3549 ft, top salt 860 ft, top lime 2110 ft, dr 2145 ft. Tidal Oil Co.'s University 1, lcn.

Reeves County—Deep Rock Oil Co.'s Caldwell 1, sd 2060 ft. Humble T&P Fee 1, fsh 1380 ft. The Explo. Co.'s A. A. Kinney 1, spd and sd.

Runnels County — Asso. Pet. Co.'s W. M. King 1, spd and sd. Bell & Moore's Ferguson 1, spd and sd. Ladd-Hill & Yates' McMillan 1, dr 225 ft.

Schleicher County — Thomas Gray et al's Robinson 1, spd and sd.

Scurry County—Northwest Co.'s Stinson 1, sd 3900 ft.

Sterling County — J. P. Williams et al's Clark 1, sd 845 ft.

Stonewall County—Geo. A. Henshaw & Co.'s Brown 1, lcn. F. P. Zoch & McCamey's Ward 1, rig.

Taylor County—Gibson-Johnson et al's J. F. Hendry 1, rig. Grisham-Hunter Corp.'s Huddleston 1, dr 2340 ft. Humble's Mattie Jacobs 1, dr 415 ft. Halbert et al's Hunt 1, sd 1265 ft. Dorning & Perrine's J. A. Hammer 1, fsh 250 ft. Mid-West Explo. Co.'s Dora Smith 1, sd 1520 ft; Toombes 1, dr 1760 ft. Mitchell & Breene's Tittle 1, lcn. Morrison & Thompson's Alice Rose 1, dr 810 ft. Oil Operators Trust et al's Haines-Hamilton 1, sd 2505 ft. Owen-Sloan et al's I. T. Latimer 1, spd and sd. Roeser-Pendleton, Inc.'s Sam Butman 1, sd 710 ft. Sanger O. & R. Co.'s Ike Brown 1, sd 1870 ft; Cox 1, abn 2413 ft; Gillespie 1, dr 3880 ft. World Oil Co.'s J. R. Griffon 1, rig.

Upton County—Curtis-Hults et al's Giddings 1, sd 3210 ft. W. W. Donnelly & Marland Oil Co.'s University 1, elev 2884 ft, top salt 1550 ft, dr 2230 ft. Sartain Oil Co.'s Bull 1, sd 3300 ft.

Val Verde County—Douglas Oil Co.'s Sellars 1, crooked hole 2350 ft. Magnolia's W. E. Whitehead 1, lcn. S. A. McCaskey's Sellars 1, sd 2525 ft. O. O. Owens et al's Mills 1, dr 965 ft. Transcontinental Oil Co.'s Stevenson 1, fsh 4412 ft. E. T. Williams et al's Holman-McNutt 1, dr 2600 ft.

Ward County — Marland's Jennie Sealy 1, elev 2820 ft, top salt 1070 or 1100 ft, dr 1835 ft.

Winkler County—Champlin Ref. Co. & Marland's Cowden 1, cas trouble 940 ft. Gulf Prod. Co.'s T. G. Hendricks 1, elev 2801 ft, top salt 1665 ft, top lime 2538 ft, flowed 180 bbls 29 degree gravity oil per hour 2824-42 ft; Hendricks 2, 3 4 and 5, steel dks. Ed. S. Hill-Ladd & Simon's Ambrugey 1, elev 2995 ft, top salt 1220 ft, rig burned, td 3447 ft. Humble's Hendricks 1 and 1-A, rigs. Inde-

pendent O. and G. Co.'s Hendricks 1, fsh 2005 ft. Llano Oil Co.'s Scarborough 1, elev 2921 ft, top salt 1115 ft, water trouble 1885 ft. McCullough & Marland's Tobe Morton 1, dr 1330 ft. R. S. Matthews et al's Cowden 1, elev 3128 ft, skid rig, td 1225 ft. Pure Oil Co.'s Central State Bank Fee 1, lcn. Skelly Oil Co.'s M. M. Leeman 1, top salt 1165 ft, dr 1255 ft. Southern Crude Oil Purchasing Co.'s Hendricks 1-C, elev 2801 ft, top salt 1910 ft, dr 2700 ft; Hendricks 2-C, top salt 1901 ft, dr 2230 ft; Hendricks 3-C, dr 650 ft. F. P. Zoch et al's Sealy 1-A, elev 2709 ft, top salt 1062 ft, dr 4000 ft. White Eagle O. & R. Co.'s R. A. Leck 1, materials.

TEXAS GULF COAST

Austin County—Humble's Austin College 2, Raccoon Bend, dr 1492 ft, shale and lime; Austin College 3, Raccoon Bend, set 6⅝ cas over oil sand, 939 ft; Washington 1, Raccoon Bend, dr 923 ft, sandy shale; Thompson 2, Raccoon Bend, dr 924 ft water sand after bailing salt and sulphur water 915 ft; Reese 3, Raccoon Bend, coring sand 1018 ft; Bellville School 1, Raccoon Bend, dr 1475 ft, hard sand. R. E. Graves et al's Cleveland 1, Hickory Mound, changing rig, td 1000 ft. Green, Mewis & Morgan's A. E. Mewis 1, 3 miles e of Bellville, dr 367 ft, clay.

Brazoria County—Staley et al's Glover 1, Anchor, dr 583 ft, gumbo. Associated's Seaburn 1, Stratton Ridge, dr 2388 ft, sandy lime. Pure-Humphreys' Armstrong 1, Stratton Ridge, dr 2276 ft, gumbo. Gulf's Perry 2, Stratton Ridge, dr 515 ft, gumbo. Roxana's Pabst 2-A, Clemens dome, dr 4320 ft, sand and shale; Clemens 4, Clemens dome, r 3861 ft, td 3995 ft; Allen 3, Allen dome, cemented 5356 ft; Allen Bernard 1, Allen dome, dr 4798 ft, blue shale; Reese 2, Allen dome, dr 1616 ft, sand rock.

Fort Bend County—Gulf's Trone 2, Long Point, dr 730 ft, gumbo; Beard 4, Long Point, dr 2452 ft, hard sand; Wolff 1, Long Point, dr 842 ft, gumbo and lime; Davis 24, Long Point, dr 988 ft, lime rock. Sun's Farmer 2, Boling, dr 2407 ft, shale. Texas' Farmer 2, Boling, dr 3400 ft, shale lime and sand.

Goliad County—Houston Oil Co.'s Pettus 3, 10 miles w Goliad, dr 2266 ft, shale and hard lime; Parks 2, 8 miles e Goliad, dr 3280 ft, shale and lime.

Hardin County—Texas' Le Jarza 3, Batson, dr 4450 ft, hard shale.

Harris County—P. S. Griffith's Fee 2, 12 miles n Houston, dr 3110 ft, sandy shale and lime. Atlantic-Simms' Burt-Griffith 1, 3 miles n Humble, dr 2560 ft, water sand. Juanita Oil Co.'s Kitsman 1, 3 miles n Cypress, dk. Humble's Warren 1, Hockley, lcn.

Jefferson County—Rio Bravo's T. & N. O. 101, ¼ mile n Spindle Top, fsh 3365 ft. J. O. Davis et al's Gladys 1, ½ mile w Spindle Top, dr 4433 ft, lime. Hines Bros.' Roberts 2, ½ mile e Spindle Top, dr 3000 ft, shale. Deep Test Oil Co.'s McFaddin 1, 4 miles ne Beaumont, sd 1450 ft. Edmund Tstee's Port Acres 1, 2 miles n Port Arthur, dk. Gulf's Bordages 2, Fannett, dr 5072 ft, sandy shale; Bordages 3, Fannett, dr 3560 ft, gumbo; Thomas 10, Fannett, bailed open hole with porous rock showing oil, for salt and sulphur water, will deepen.

Liberty County—Union Sulphur Co.'s Kyle 5, Moss Bluff, dr 528 ft, sand. Barlow et al's Minchcliffe 1, Excelsior, dk.

Matagorda County—Gulf's Craig 8, Hawkinsville, dr 4162 ft, sandy shale; Parkinson 2, Hawkinsville, losing returns, 1208 ft; Parkinson 3, Hawkinsville, lcn; Sanborn 3, Hawkinsville, ready to spud. Sheppard Mott Oil Co.'s Murphy 1, Hawkinsville, sd 3114 ft.

Montgomery County—Brain et al's Fitch 1, 3 miles e of Spring, dr 2035 ft, sand and lime. Beard et al's Beard 1, 15 miles e of Conroe, lcn.

Orange County—W. C. Wells' Starks 1, lcn.

Walker County—N. Thompson et al's Thompson Lbr. Co. 1, sd 1502 ft, shale.

Wharton County—Texas' Felder 3, Boling, dr 4250 ft, shale and lime.

Washington County—C. A. DeWare's A. C. Lehmann 1, Brenham, sd 2365 ft; Schurenburg 1, Brenham, sd 308 ft. Pratt-Hewitt Oil Co.'s Konieczny 1, Brenham, sd 200 ft, gumbo.

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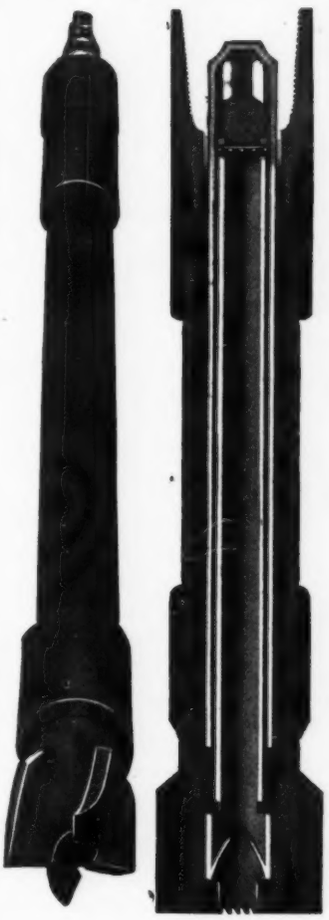
Longer and Better Cores



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Cross Plains	Seminole	Shelby	
McCamey	Tonkawa		
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	Webb City		

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All Pioneer Oil Well Shooters

COMPLETIONS

(Continued from page 62)

Company, Well and Location	Initial Production Bbls.	Depth
Huntington Beach Townsite—		
Ahlburg Gasoline Corp., Keck 8, wo	100	3956
Cal.- Eastern Oil Co., Bogan 1....	100	4340
Cal. Pet. Corp., Jones 1, wo.....	307	4000
Coastal Oil Co., Huntington 2.....	200	3798
Guaranty Oil Co., Huntington	100	4391
Standard Oil Co., P. E. 4.....1110		4343
Superior Oil Co., Nixon 2 1200		4385
Huntington Beach-Old Field—		
Central Oil Co., Hessee 2, wo.....	95	3325
Long Beach—		
Cal. Pet. Corp., Harlow-Kent 8....1500		5255
Baldwin Hills-Inglewood—		
Standard, Baldwin-Cienega 52, wo ..	400	1503
Brea-Richfield—		
Associated, Thompson 2-A	800	4362
Continental, Payne 2	650	4400
Standard, Moll Community 1	64	3150
Ventura Avenue—		
Shell, Gosnell 12 1903		6189
Sunset—		
Lewis Pet. Co., No. 8	75	2175
No. 9, wo	400	2088
Midway—		
Honolulu Cons. Oil Co., No. 5.....	124	2931
No. 7	216	2913
No. 87	50	2917
Kern Front—		
C.-C. M. O. Co., No. 2.....	275	2240
Geo. F. Getty, Tegeler 11	125	2352

ARKANSAS

Ouachita County—		
Wesson et al, Pelican 1, 22-15-19..	7	2158
Union County—		
Eason et al, Murphy 9, 15-16-15 ...	20	2619
Magnolia, Hatfield 10, 7-16-15.....	¶10	2630
O. G. Murphy, T. C. Murphy 9, 9-16-15	¶5	2690
Stewart et al, Murphy 7, 9-16-15..	206	2771

LOUISIANA

Caddo Parish—		
Magnolia, Dillon 19, 24-21-15.....1800		1625
J. M. Miller, Solly 6, 22-21-15.....	5	1680
Owl Oil Co., Wilborn 2, 4-17-16....	¶2	2580
Total, 3 wells .....¶2-1805		
De Soto Parish—		
Magnolia, Mason 1, 28-12-11.....	60	2715
Webster Parish—		
Magnolia, Robbins A-4, 21-21-10....	80	2569

TEXAS

SOUTHWEST TEXAS

Duval County—		
Cole Pet. Co., Benavides 33	¶60	1642
Benavides 34	¶40	1537
Jim Hogg County—		
Alworth, Stevens & Hill, Garcia 3.		1040

ARCHER COUNTY

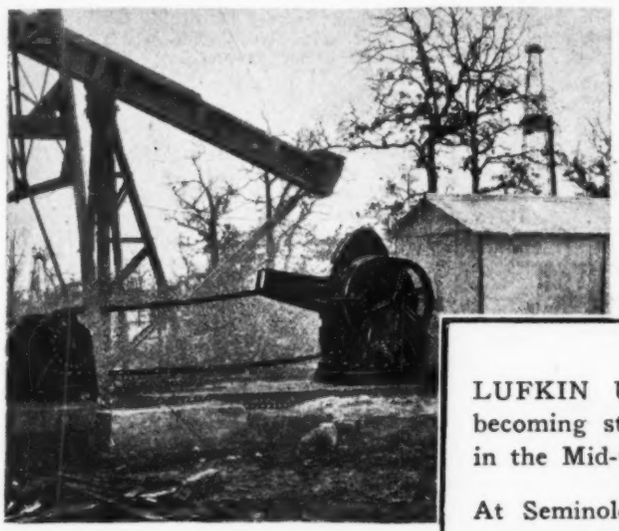
Apple-Brandeberry Oil Co., Griffin 1	*	2008
Christie & Maddox, Key 1	*	1508
C. A. Everts et al, Wilson 1	*	1668
Grisham et al, Kunkel 1	*	1506
A. W. Johnson et al, Garvey 2	*	832
Leath et al, Abercrombie-Taylor 1	*	1505
Marland, Turbeville 15	*	1535
Pandem Oil Corp., L. L. Gudson 9	40	1152
Plains Pro. Co., Lyles 3	125	1550
Pois & Schultz et al, Miller 3 ...	20	1585
Roamer Oil Co., Clogett 1	*	1410
Royal Pet. Co., Wilson 1	80	1548
Simms Oil Co. & L. T. Burns, Turbeville 8-A	60	1470
Turbeville 9-A	80	1467
Tackett et al, Prideaux 1	*	695
The Texas Co., Hayter 1	*	1502
Turbeville 1-F	*	1753
Wilson & Russell, Prideaux 7	65	669

BIG LAKE

Big Lake Oil Co., University 89 ...	†	2610
University 100	70	2930

(Continued on page 86)

LUFKIN at SEMINOLE

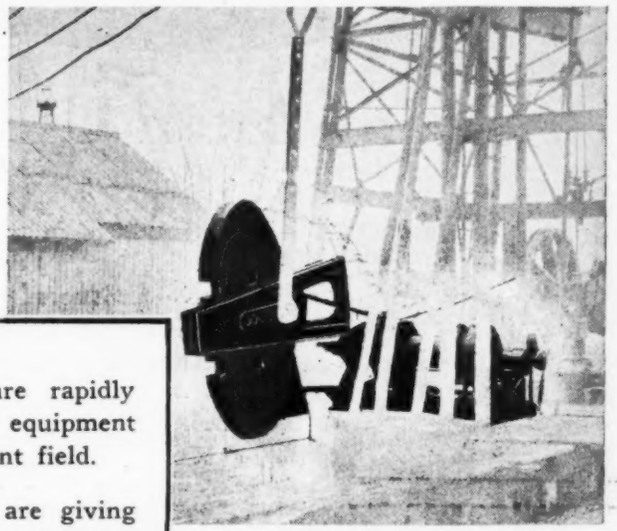


(1)

(1) *Tidal Osage Oil Co., Fixico No. 3, Seminole, Okla. Depth 4300', 7/8" rods, 2½" tubing. Steel House, 20-50 G. E. Motor. Lufkin complete.*

(2) *Tidal Osage Oil Co. Fixico No. 2, Seminole Steel House.*

(2)



(3)

(3) *The Carter Oil Co. Joe Carter No. 3, Seminole.*

(4) *Amerada Petroleum Corporation. Fixico No. 4, Seminole, Okla. Depth 4300', 7/8" rods, 2½" tubing.*

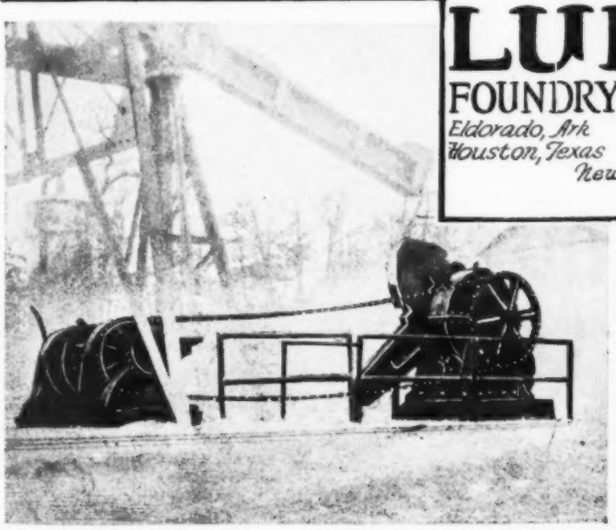
(4)

LUFKIN Units are rapidly becoming standard equipment in the Mid-Continent field.

At Seminole they are giving such satisfactory service that some of the larger operators are standardizing on them—strong in their conviction that they are thoroughly dependable and more economical for pumping.

Manufactured at Lufkin, Texas by

LUFKIN
FOUNDRY & MACHINE CO.
Eldorado, Ark *Tulsa, Oklahoma*
Houston, Texas *Los Angeles, Cal.*
New York, N.Y.



Ask any Alten User

In the oil fields Alten products enjoy a reputation for reliability and efficiency that is based on nearly forty years of service to oil producers. All over the world men have learned to depend on Alten. It will pay you to investigate these successful products, too.

At your supply house, or write

Alten's Foundry & Machine Works

Established 1889 Lancaster, Ohio

—and nothing more

The best materials obtainable, and exacting control of processes from first to last,—that's all. But that means steel of unvarying uniformity and quality and that's what you get when you specify Diamond "H" Bit and Jar Steel.

Diamond—"H"—
Bit and Jar Steel

HEPPENSTALL
Forge & Knife Co.
PITTSBURGH, PENNA.
Fort Worth -- Texas Office
1415 F. & M. Bank Building

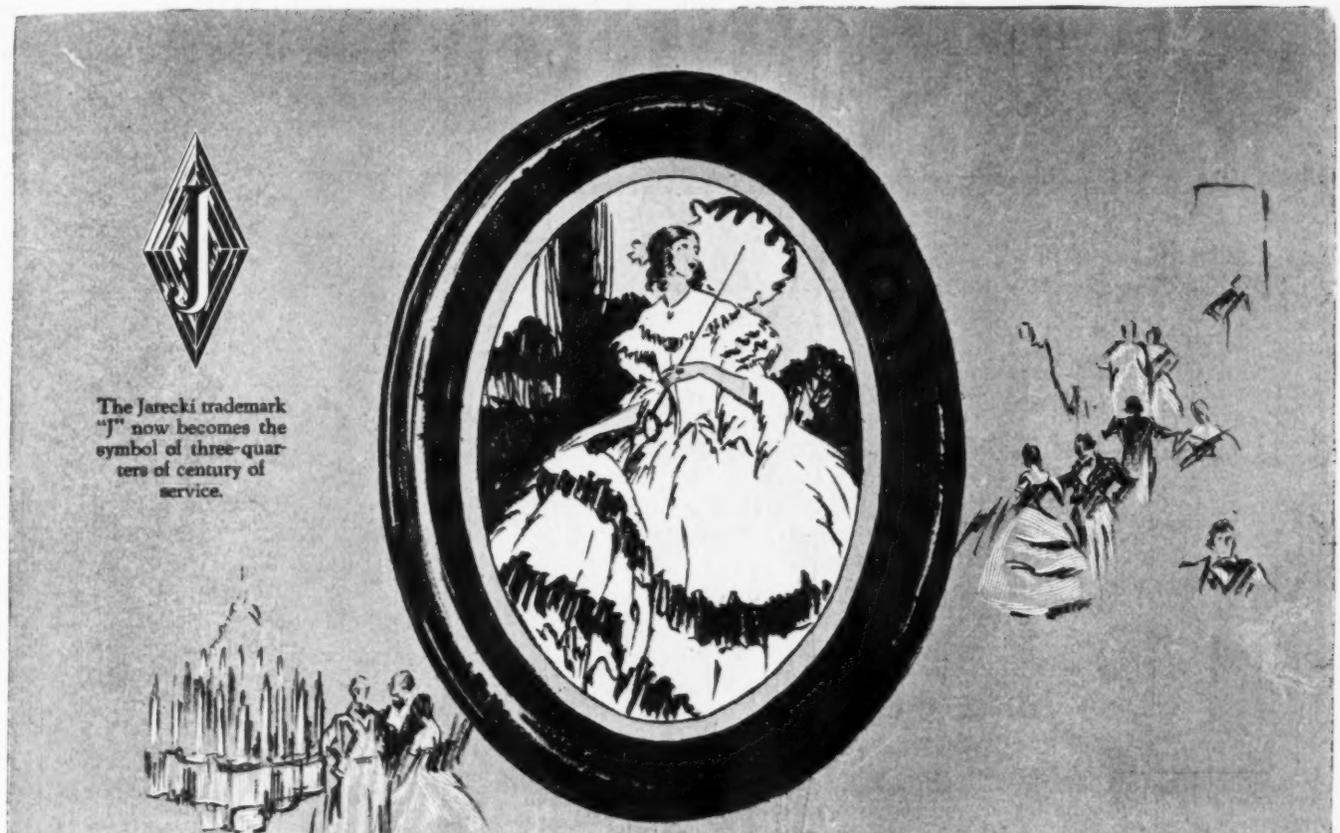
The Tret-o-lite Process is Thorough

ALL the oil goes to the top; ALL the water settles to the bottom. No residue. "Cut oil" becomes water and pipeline oil—that's all. Our nearest field representative is at your service.

Wm. S. Barnickel & Co.
ST. LOUIS, MO.

Company, Well and Location	Initial Production Bbls.	Depth
Texon Oil & Land Co., Univ. 60 ..	25	3045
University 66	150	2917
University 67	410	2950
University 68	15	2968
University 69	105	2942
BROWN COUNTY		
Amerada Pet. Corp., J. H. Fry 22..	20	1317
Barbara Oil Co., A. E. Metts 4	365	1320
A. E. Metts 7	250	1353
Curry & Moore, Kilgore 3	*	1355
Evans et al, Teague 1	*	1302
Gibson Oil Corp., White 1	†	850
Gilman et al, Perry 2	*	1290
Gilman-McMurray, Teston 15	150	1204
J. K. Hughes Dev. Co., Shore 3 ...2400		1304
Humble, Armstrong 9	110	1214
Foster 11	15	1196
Hickman 13	35	1258
Hodnett 13	45	1194
Hodnet 14	20	1210
Hodnett 7-B	15	1216
Kilgore 17-B	25	1193
Wooldridge 12	*	1270
Lloyd et al, Conway 1	*	540
Ramsey et al, Henson 2	175	1246
Ryan et al, Brooks 1	¶2	1116
Rex-Tex & Py-Tex Oil Co., Fry 8	480	1300
Shoup Jr. et al, Byler 11	200	1292
Sinclair, J. H. Fry 14	200	1310
The Texas Co., Hickman 16	2	1270
Hickman 17	150	1210
R. M. Lowe 27	250	1303
R. M. Lowe 28	400	1297
R. M. Lowe 30	250	1262
R. M. Lowe 32	400	1303
Pugh 9	5	1355
Pugh 10	75	1333
Pugh 11	10	1342
Vondran et al, Lewis 1	*	1275
Wentz Oil Corp., Shore 6	60	1330
CALLAHAN COUNTY		
Gibson-Johnson, Finley 1	*	1211
Wakefield et al, Webb 1	*	1717
Warren-Hays Oil Co., Green 1	*	710
CARSON COUNTY		
Empire, Magnolia-Lane Fee 1	¶25	2750
Marsten Oil Co., Bryan 1	165	3220
Nunn-McAuley Oil Co., Bryan 2 .	75	3218
COLEMAN COUNTY		
Sebastian et al, Chelsey 1	*	1985
Roden et al, McAdams 1	*	650
CLAY COUNTY		
H. C. Dean et al, Dean 1	*	1353
COOKE COUNTY		
American Ref. Co., J. A. Dennis 10	100	1302
Camp-Hedrick & Oil Operators Trust, Kleiss 3	20	1345
Chapman Oil Co. & C. C. Lanier, Montgomery 1	125	1327
J. K. Hughes Dev. Co., Embry 5 ..	30	1258
Kewanee O. & G. Co., J. A. Dennis 19	20	1303
J. A. Dennis 20	80	1315
Oil Operators Trust, Kleiss 1	45	1307
Turman & Maxwell, Alexander 1...	*	2083
F. P. Zoch et al, Bruton 1	*	2505
CORSICANA-POWELL		
Magnolia, Rufus Hardy 2	90	1690
CRANE COUNTY		
Gulf, J. T. McElroy 6 1135		2811
Crier-McElroy 3-A 1170		2835
Humble, University 2 7500		2910
Magnolia, University-O'Keefe 5 ...	150	3003
Simms & Atlantic, University 3-A..7200		2924
University 1-B, shot	275	3003
DENTON COUNTY		
Rondeau & Sanford, Atkins 1	*	2024
ELECTRA		
Dale Oil Corp., Burnett 22.....	30	1381
Burnett 23	*	1400
Gulf Pord. Co., Burnett 41-A.....	3	1424
Magnolia, Corsicana-Honaker 16....	*	2088
EASTLAND COUNTY		
Green Prod. Co., Jones 1	10	3000
Independent O. & G. Co., Snider 2	250	2976
West Adams O. Co., Ransower 2..	*	3771

(Continued on page 88)



The Jarecki trademark "J" now becomes the symbol of three-quarters of century of service.

This Is the Way They Dressed When Jarecki Was Established

When flounces and ruffles were an index of fashion, tight waists an accomplishment and the width of a woman's skirts a measure of her social standing, Henry Jarecki opened a shop 18 feet by 100 feet and called his business the Jarecki Manufacturing Company.

In the seventy-five years that have intervened, many changes have taken place. The yardage embodied in a woman's wardrobe has shrunk to proportions unheard of in 1852; the 1,800 square feet of shop space has grown to more than 420,000 square feet [not counting the many branches which have been added]—but the policy of rugged honesty and sincere service laid down by Henry Jarecki still represents the guiding principles of the organization he founded.

Isn't it comforting to know, in buying supplies, that three quarters of a century of service stand back of the company with whom you deal?

Jarecki

MANUFACTURING COMPANY

Home Office and Factory—Erie, Pa., U. S. A.

General Office, St. Louis, Mo.

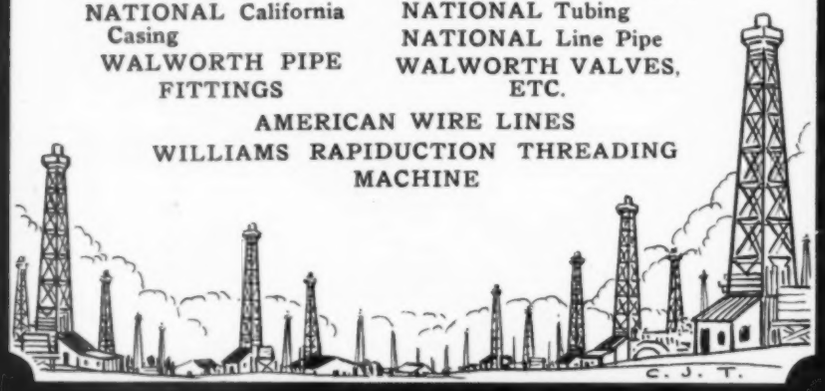
Branch stores at all important places in the Oil Country.

District Offices { Pittsburgh, Pa.; El Dorado, Kan.; Tulsa, Okla.; Newark, Ohio; Eastland and Dallas, Texas; Lawrenceville, Ill.

EVERYTHING for the OIL WELL

Big Stock of Oil Field Supplies carried in our warehouses for your convenience. Send us your orders or write today for prices and information. "We Ship Quick."

NATIONAL Drill Pipe
NATIONAL California Casing
WALWORTH PIPE FITTINGS
NATIONAL Rotary Pipe
NATIONAL Tubing
NATIONAL Line Pipe
WALWORTH VALVES, ETC.
AMERICAN WIRE LINES
WILLIAMS RAPIDUCTION THREADING MACHINE



THE LARGEST SUPPLY HOUSE IN THE SOUTHWEST

PEDEN IRON & STEEL CO.
HOUSTON – SANANTONIO – SHREVEPORT

Erecting "Horton Spheres" With Turbinair Hoists

Here's the little 345-lb. Sullivan Turbinair hoist doing a big erection job for the Chicago Bridge and Iron Company. Some of the curved steel plates of which the "Horton-Sphere" is made are 8x18 ft. in size and weigh 2835 lbs., but the Turbinair hoist handles them easily.

Two Turbinair hoists are mounted side by side on a stiff leg derrick, one handling the load and the other the boom. Both hoists can be operated at the same time which speeds up the work greatly.

The Graver Corporation, Warren City Tank and Boiler Co., Western Gas Construction Co., and many other organizations are speeding up erection jobs with Turbinair hoists.

Are you familiar with the lightness, compactness, great power, and speed of these little machines?

Write for Pictorial Booklet, "Handy Hoisting and Hauling."

Sullivan Machinery Company
419 Peoples Gas Bldg., Chicago

HOWARD COUNTY

Company, Well and Location	Initial Production Bbls.	Depth
Gulf Prod. Co., Chalk 2	35	1776
Magnolia, Sarah-Hyman 2	50	1625

HUTCHINSON COUNTY

American Ref. Co., J. F. Weatherly 5, shot	110	3026
Dixon Creek Oil Co., Smith 52, shot	300	2898
Gulf Prod. Co., Johnson 17, shot	60	2935
Kistler Oil Co., Johnson 3	700	2919
J. P. McKinney-Bayer Oil Corp., Weatherly 2, shot	75	2946
Mid-West Explo. Co., Johnson 2, shot.	100	2800
Phillips P. Co., J. J. Perkins 3, shot	75	2997
J. J. Perkins-George 5, shot	175	2861
Johnson-Wiley 2, shot	110	2678
J. A. Whittenburg-Burg 7, shot	75	2987
J. A. Whittenburg-Haines 4	1200	2935
J. A. Whittenburg-Patsburg 6, shot	450	2886
J. A. Whittenburg-Coble 25, shot	300	2952
Prairie & Phillips Pet. Co., Johnson 10-B, shot	50	2893
Prairie-Shamrock Pet. Co., Whittenburg 5	35	2878
Staggers Oil Co., Cockrell 1, shot twice	30	3049

JACK COUNTY

Seaboard O. & G. Co., Culler 4	25	2095

JONES COUNTY

Phillips Pet. Co., Mason 1	300	2529
Tessie-Walling 2	200	2530

K-M-A AND IOWA PARK

Alexander-Barnes et al, Griffin 1	*	2005
Cullum Drilling Co., Kemp 1	*	1850
Bridwell-Heydrick et al, Griffin 3	*	1870
Cooper-McLaughlin, Love 5	*	495
Harry Hines et al, River Bed 4	50	1799

MONTAGUE COUNTY

Arco Oil Co., N. J. Howard 5	30	1153
M. H. Salmon 4-B	20	922
Cato Oil Co., N. J. Howard 2	15	1400
Continental Oil Co., Jones 8	*	795
Humble, N. J. Howard 4	15	1211
Pure Oil Co., Maddox 7-C	40	915
The Texas Co., Howard 2-C	80	1179

PALO PINTO COUNTY

TP Coal & Oil Co., J. N. Stuart 152	90	1618

SHACKELFORD COUNTY

Hadley et al, Herron 1	*	1347
Hope O. & G. Co., Reynolds 17	65	1463
Outhier et al, Isenhower 1	*	800
Phillips Pet. Co., Compton 1	¶2-6	3564
Roeser-Pendleton & Marland, W. I. Cook 29-B (sec. 60)	80	1356
W. I. Cook 1-G (sec. 60)	50	1215
Tannehill Oil Co., Matthews 5	20	1019

SOUTH VERNON DISTRICT

Barkley-Meadows, Stephens 9-B	60	2066
Gulf, T. J. Milner 2	190	1493
Magnolia, Minnie-Waggoner 1	*	2247
Milham Corp., Waggoner 9-B	60	2561
Waggoner 21-L	55	2385
Phillips Pet. Co., Waggoner 6-CC	100	2373
Waggoner 19-QQ	125	2395
Roxana Pet. Corp., Milner 1	70	1497

STEPHENS COUNTY

Morton et al, Fambrough 1	*	1906

THROCKMORTON COUNTY

Humble, Stubblefield 3	125	4290

UPTON COUNTY

Dixie Oil Co., Burleson 21	1250	2005
Independent O. & G. Co., Taylor 7	*	3728
Simms Oil Co., Shirley 2	40	2170

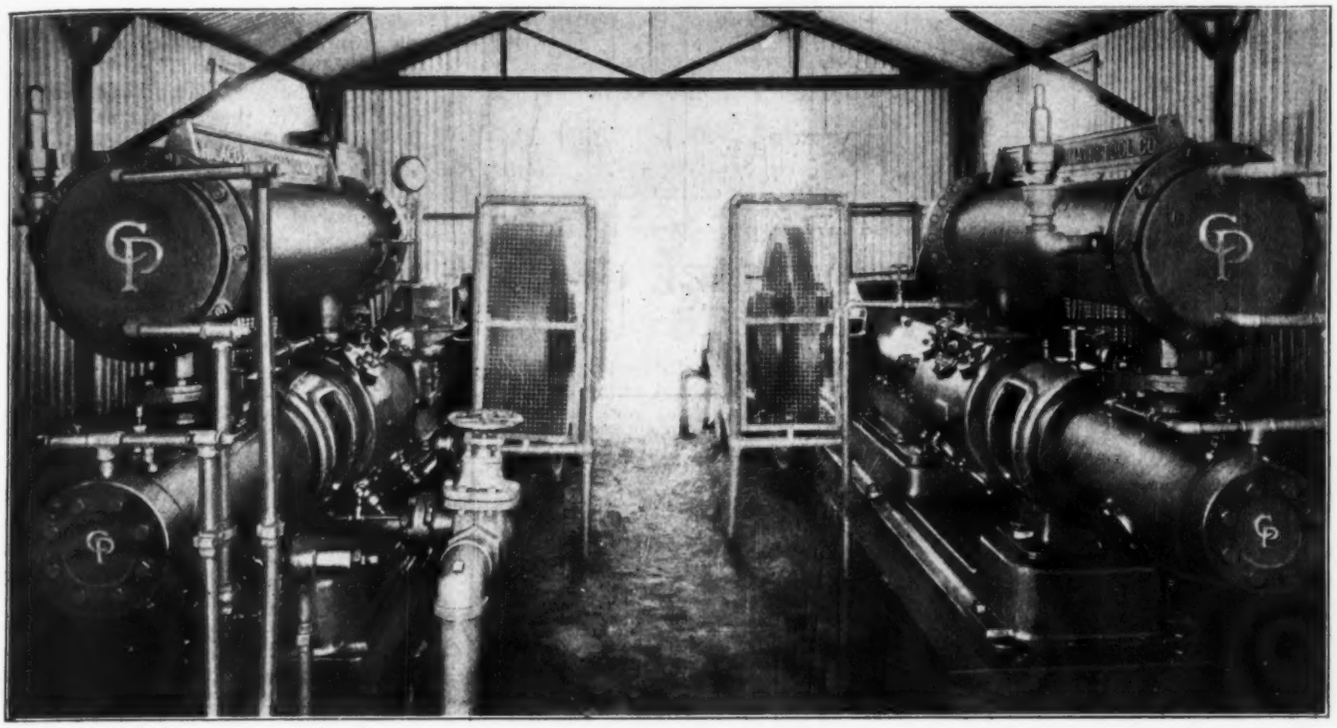
WHEELER COUNTY

Angus et al, L. C. Burcham 1	¶30	1809
Gibson Oil Corp. et al, Phillips 5	270	2312
Marland Oil Co., W. E. Bentley 1	960	2335

YOUNG COUNTY

Francis & Continental Oil Co., Benson 5	30	950
Panhandle Ref. Co., Matthews 5	40	751
Matthews 6	85	747
Roberts Oil Corp., Prideaux 1-C	15	540
Roberts Oil Corp. et al, Little 1	*	1325
Seaboard O. & G. Co., Graham 3	70	2619
The Texas Co., Graham 2	*	1220

Vacuum Pumps for Gasoline Extraction—Gas Compressors for Preassure Boosters—Diesel Engines



CP Air Compressors for Oil Field Work

YOU can secure a CP Air Compressor to meet any oil-field requirement. There are more than 500 types and sizes, all thoroughly proven and powered by steam, oil, gas, belt or electric motor, in either stationary, semi-portable or full portable units. A wide variety of cylinder sizes are available, interchangeable on a given frame, (protecting you under the constantly changing operating conditions), are stocked at convenient points and are quickly available—that is one of the reasons why CP's are so extensively used.

Our oil-field organization has enjoyed a wide experience on both air and gas-lift — if you are in doubt, they can render you valuable service.

Cutting Pumping Costs 47%

The above installation is but one of the many CP plants in the Garber field, where encroachment of water makes swabbing difficult and extremely expensive—gas lift is effective and economical. The two CP type N-CTB Air Compressors shown above have reduced pumping costs 47% and materially increased production.

Chicago Pneumatic Tool Company

6 East 44th Street, NEW YORK, N. Y.

*Sales and *Service Branches all over the World*

WHEALTON & TOWNSEND, INC., Authorized Distributors—Higgins Bldg., Los Angeles; 120 East Brady St., Tulsa; 1415 Fannin St., Houston

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Buffalo	Denver	*Los Angeles	*Pittsburgh	*St. Louis	*Bombay	Dairen	*Johannesburg	Manila	*Montreal	Rio de Janeiro	Stockholm	*Toronto
*Chicago	*Detroit	*Minneapolis	Richmond	Tulsa	*Brussels	*Durban	Kobe	*Mexico City	Osaka	*Rotterdam	Sydney	*Vancouver
*Cincinnati	El Paso	*New Orleans	Salt Lake City	Athens	*Buenos Aires	*Havana	Lima	*Milan	Oslo	Santiago	Tampico	*Winnipeg

Canadian Pneumatic Tool Company, Ltd., Montreal, manufacturers of Chicago Pneumatic products in Canada

Consolidated Pneumatic Tool Company, Ltd., London, manufacturers of Chicago Pneumatic products in England

C-233

CHICAGO PNEUMATIC AIR COMPRESSORS · BOYER PNEUMATIC HAMMERS · ROCK AND COAL DRILLS · CONDENSERS
LITTLE GIANT PNEUMATIC AND ELECTRIC TOOLS · GIANT OIL AND GAS ENGINES · VACUUM PUMPS · OIL BURNERS
PAINT SPRAYERS · TOOL BALANCERS PNEUMATIC HOISTS · SAND BLASTERS

CHICAGO *Depend upon* **PNEUMATIC** *that Name*

Say you saw it in The OIL WEEKLY

Maloneys on Mid-Continent Petroleum Company Lease at Seminole

PROTECTING THE PRICE OF STORED PRODUCTS

Maloneys protect the price of your products by eliminating the lowered quality due to evaporation. Maloney patented crimp construction at seams and joints, makes bottoms, sides and decks vapor-tight. Rust-resisting Keystone Copper Steel gives decidedly longer life. Seams are strongly reinforced. Large cleaning-out plates are set flush with bottoms.

Howell Aluminum "3 in 1" Vacuum Pressure Valve and Thief Hatch—The BEST and LATEST Deck Equipment—POSITIVE Safety

THE MALONEY TANK MFG. CO.

Tulsa, Oklahoma

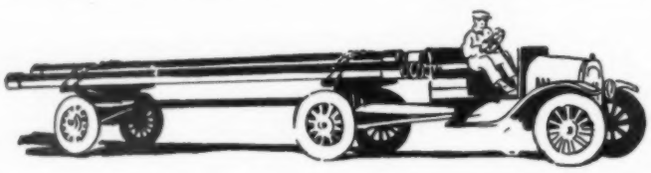
MADE OF KEYSTONE COPPER STEEL

Distributors at All Principal Petroleum Points
Sizes 12 to 3,000 Bbls.

Packed in Steel-Bound Crates for Export

MADE OF KEYSTONE COPPER STEEL

MALONEY



Long Loads for Long Hauls
With
Nabors Trailers

LIKE the truant hen that "hides out" her nest in spring time, the oil man has a way of bringing in new fields in out-of-the-way places.

The transporting of pipe and heavy machinery to the scene of operations is simplified by the use of Nabors Trailers.

Pick one up from your truck dealer and hitch it behind any make of truck up to two-ton capacity.

Sold Through Authorized Truck Dealers

W.C. NABORS CO.
MANSFIELD-LA.

Midwest Gets Two Good Salt Creek Wells

Casper, Wyo.—The Midwest Refining Company subsidiaries in the Salt Creek field continued their unbroken line of gushers by completing two unusual wells in the Lakota sand. The Wyoming Oil Fields Company, owned almost outright by the Midwest, completed a 4000-barrel well on the southeast quarter of section 23-40-79. The total depth was 2462 feet. The Midwest Oil Company completed a 2100-barrel producer on the southwest quarter of section 35-40-79. Both of these wells are located in the heart of the Lakota area.

Complete Shallow Wells At Big Muddy

Casper, Wyo.—The Wyoming Oil & Refining Company has completed a second well in the Big Muddy field. This company has been unusually fortunate in this field, having completed two commercial wells in the shallow sands above the main producing formations. The locations are outside the regular producing limits of the field. Production is found at approximately 1200 feet. The wells produce around 15 barrels daily.

Pumping Changes Water Well to Oil Producer

Denver, Colo.—The Union Oil Company of California has virtually turned a water well into a producing oil well in the Wellington field, by pumping the test for several days. The well is No. 1 Plummer, section 30-10-68, and first produced almost 100 per cent water. It was pumped vigorously for several days and began making some oil with the water. The oil increased with pumping until the well produced 340 barrels of oil with twice as much water. The action of the well gives promise of converting what otherwise would be failures into producing wells. The discovery proves that the oil can be attracted by first drawing the water from the sand. Contrary to the general belief, the oil separates easily from the water. Officials of the company are at a loss to know whether the discovery well, which ran wild for weeks, drew water from the edge of the structure.

Rush on for Leases in Oregon Basin

Casper, Wyo.—The rush for desirable leases in the Oregon Basin field, which was recently proven for oil in the deeper sands, continues to gain momentum as the Ohio Oil Company drills deeper in its discovery well. A careful geological check of the structure shows that more acreage is inside the dome than was formerly considered promising.

Be Careful In The Selection Of Lubricants For Your Motorized Equipment

Passenger cars and trucks of different makes vary considerably in type and design.

Be sure that you understand: (1). The type of lubricating system used, which determines the method of feeding the oil. (2). The type of cooling system used, this factor having more or less effect on the operating temperatures of various parts of the motor.

The proper lubrication of motor equipment means not only the lubrication of the engine cylinders — but the complete lubrication of all of the moving parts of the motor. Much harm can result from the use of too heavy an oil in a pressure system not designed to handle it—also where the "splash" system is used, the oil must not only flow easily, but must atomize readily so as to reach certain bearings which can be lubricated only by a fine mist. Your passenger cars and your trucks are designed to give you many years of service—if they are properly lubricated.

HUMBLE OIL & REFINING CO.
HUMBLE OILS
HOUSTON, TEXAS

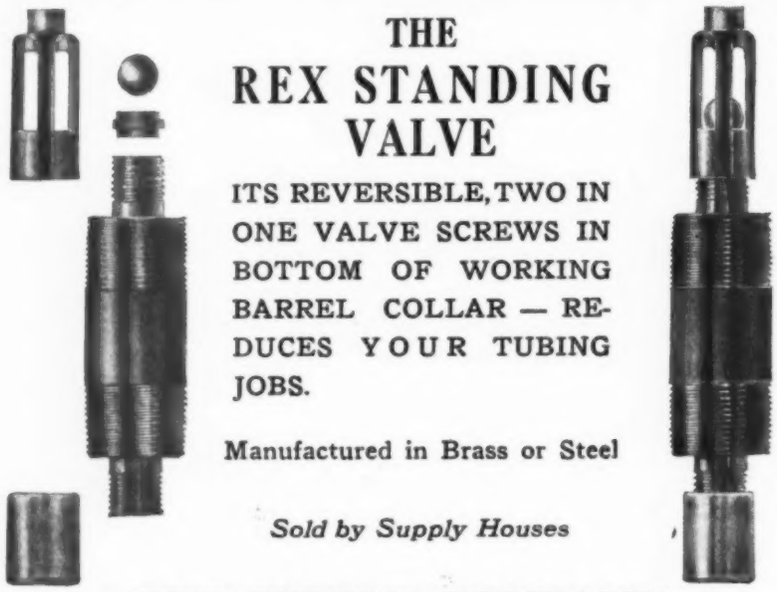
Reg. U. S. Pat. Off.

There is a Humble Oil which is specially prepared to meet every bearing need in your plant, your trucks, or in your automobile.

Humble Motor Oils are the result of years of experience in lubricating internal combustion engines. The recommendations of Humble engineers are an added factor of safety. Whether you operate one passenger car and truck, or a whole fleet of motorized equipment, it will pay you to learn more about Humble Oils.

Humble Oil & Refining Co.

Producers ~ Pipe Lines ~ Refiners ~ Marketers



THE
REX STANDING
VALVE

ITS REVERSIBLE, TWO IN ONE VALVE SCREWS IN BOTTOM OF WORKING BARREL COLLAR — REDUCES YOUR TUBING JOBS.

Manufactured in Brass or Steel

Sold by Supply Houses

REX SUPPLY COMPANY
Sour Lake, Tex.
Patented Aug. 15, 1922, No. 1425710

BUY USED PIPE
and Save the Difference

4,800′	4-¾″	15 *lb.* used casing
20,000′	5-3/16″	17 *lb* used casing
15,000′	6-⅝″	24 *lb.* used casing
10,000′	8-¼″	32 *lb.* used casing
3,000′	8-¼″	28 *lb.* used casing
4,000′	10″	40 *lb.* used casing
15,000′	2″	used tubing and rods
8	25	H. P. Used Gas Engines
2	5″	Standard Rigs
8	6″	Standard Rigs
80,000′	3″	Used line pipe
50,000′	4″	Used line pipe
20,000′	6″	Used line pipe

Keystone Pipe & Supply Co.
607 HOLMES BLDG., FORT WORTH, TEXAS
Eastern Headquarters: Butler, Penna.
BRANCH STORES:
Wichita Falls, Holliday, Vernon, Breckenridge, Texas.

Skelly Reduces Drilling Operations

Tulsa.—Skelly Oil Company has only eight wells drilling at present, the lowest total for that company in several years. Further restrictions in drilling are contemplated. Only offsets or wells made necessary by lease obligations will be drilled.

"The position of the industry as a whole," said W. G. Skelly, president, in commenting on the policy of his company, " is fundamentally sound. We have had situations like this before, due, as in this case, to having more production than consumption justifies. There is only one way to correct it and restore normal market conditions and that is to slow down the drill. The same is true of refining and natural gasoline business. The supply exceeds consumption. All branches of the industry will now have to slow down until supply and demand equalize. Only by such methods can the industry hope to become established. The sooner all operators get in line with such a policy, and practically all of them are doing their best in this respect, the sooner will conditions right themselves."

Pure Oil Moving Mexia Tanks to Seminole

Mexia, Texas.—Steel tankage requirements of the Pure Oil Company in the Seminole field, Oklahoma, has resulted in the company starting work on dismantling 41 55,000 barrel tanks in the Mexia district. Some months ago Pure knocked down 24 tanks of this capacity on the Carter tank farm, which was acquired with the purchase of Humphreys Corporation's producing properties in the Wortham field, and three tanks scattered in the Mexia-Corsicana district, making a total of 24 tanks dismantled on the first program. Workmen are engaged in dismantling 31 55's on Pure's tank farm No. 2 and 10 tanks on farm No. 1, both near Mexia. The removal of these tanks will leave Pure with 45 55's on farm No. 2, which are filled with storage oil recently sold to Prairie, and seven tanks on farm No. 1, which are also leased to Prairie.

Frick-Reid Moves Denver Office to Casper

Tulsa, Okla.—The Frick-Reid Supply Company announce effective April 1 it is closing its Denver office, and concentrating forces at Casper, where a large and diversified stock of oil country supplies is carried. Business at that point in charge of C. R. McVay, local store manager.

C. E. Dowd, district manager of the Rocky Mountain division, is being transferred to Houston, and will be in charge of that district and will be located at Houston after May 1.

18 REASONS *for Using*

ECLIPSE SAVE-A-LINE

THE large pipe line and gas companies are notoriously shrewd buyers—they are influenced solely by FACTS—the facts of actual performance.

Therefore when considering and testing Pipe Coatings, the selection of ECLIPSE "Save-A-Line" by the following 18 large pipe line and gas companies, is disinterested evidence of its superiority in endurance and protection:—

Associated Pipe Line Co.
California Petroleum Co.
Coast Countries Gas & Electric Co.
Community Natural Gas Co.
Empire Natural Gas Co.
Gulf Pipe Line Co.
Hall & Briscoe
Hope Engineering & Supply Co.
Houston Gulf Gas Co.
Humble Pipe Line Co.
Indian Territory Illuminating Oil & Gas Co.
Lone Star Gas Co.
Municipal Gas Co.
New York State Gas & Electric Corp.
Provincial Natural Gas Co.
Public Service Electric & Gas Co.
Shell Co. of California
Wilmington Gas Co.

They are now using it regularly. The total of the orders last year ran into hundreds of carloads.

This tough, elastic, non-cracking, non-peeling, heavy filmed coating, ECLIPSE "Save-A-Line," requires no heating and can be applied just as it comes from the package. This eliminates fire hazard and also possible injury to the workmen who handle hot materials. Covers approximately 140 square feet to the gallon.

Let us figure on your requirements. We will be glad to send you sample and quote your prices. Write us.

The Eclipse Paint & Mfg. Co.
Cleveland, Ohio, U.S.A.

Dallas
Denver
Tulsa
Newark
Philadelphia
Pittsburgh
San Francisco
Charlotte, N. C.

Grip a TRIMO

There Is Not Another Pipe Wrench Like It

First balance a TRIMO — you just know that it has the proper leverage to give you that last necessary turn.

Then take the word of thousands and thousands of users concerning its strength. A TRIMO Pipe Wrench is built of selected forged steel, strong enough to withstand 25 per cent. more strain than you will give it.

Nut guards and interchangeable parts contribute towards making TRIMO a pipe wrench alone in its leadership.

There are also **TRIMO** { CHAIN WRENCHES / MONKEY WRENCHES / PIPE CUTTERS / PIPE VISES

For sale by Oil and Mill Supply Stores.

TRIMONT MFG. CO.
ROXBURY (BOSTON), MASS.
America's Leading Wrench Makers for Nearly Forty Years

Gott water can the BEST

PURE WATER

Built to last—you will always be assured of a fresh supply of pure water, when you have a GOTT. Made in 1½, 3, 5 and 10 gallon sizes. Order now from your supply store.

H. P. GOTT MFG. CO.
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Wyoming Royalty Owners Cannot Escape Tax

Great Falls, Mont.—Owners of royalty interests in oil fields in Montana must pay a tax on the net proceeds of oil sold. The State legislature recently passed the law which will affect the small royalty holder who has heretofore been able to avoid such payments. Under the old law, the operator deducted the royalties in question and the State could not collect. The new law requires the operator to pay the royalty-owner tax before the settlement is made. The new tax will yield a large revenue as the royalty interests in the Kevin-Sunburst field are extremely varied.

Montana Wildcat Test Again Gets Notice

Great Falls, Mont.—The Bannatyne structure, located 50 miles north of this city, is again attracting attention as the result of a test just made to determine the source of a small amount of crude found in a well being drilled there. An analysis of the crude shows that it is not the same as any other oil found in the State. This fact counteracts the theory that the oil was placed in the well. The location is in the Sweetgrass hills. The crude was taken from an abandoned well.

Public Land Drilling Bond Rule Changed

Artesia, N. M.—The Department of the Interior has issued the folloing ruling relative to bonds under oil and gas prospecting permits.

Hereafter applicants for oil and gas prospecting permits under the act of February 25, 1920, (37 Stat., 437), will not be required to furnish the bond at the time of filing of the application for the permit, conditioned against failure of the permittee to repair damage to the oil strata or deposits resulting from improper methods of operation, as provided by Sec. 4 (h) of Circular No. 672 (47 L. D., 437) and Circular No. 754. Such applicants, however, will be required, prior to the issuance of permit to furnish bond in the sum of $1000 or such other amount as may be fixed in special cases where a permit application embraces reserved deposits in lands theretofore entered or patented with reservation of the oil and gas to the United States, together with the right to prospect for, mine and remove the same pursuant to the act of July 17, 1914, (38 Stat., 509), or where the lands constitute a portion of a reclamation project, or are included in a reclamation homestead entry.

Before a permittee, or any one claiming through or under him, shall begin

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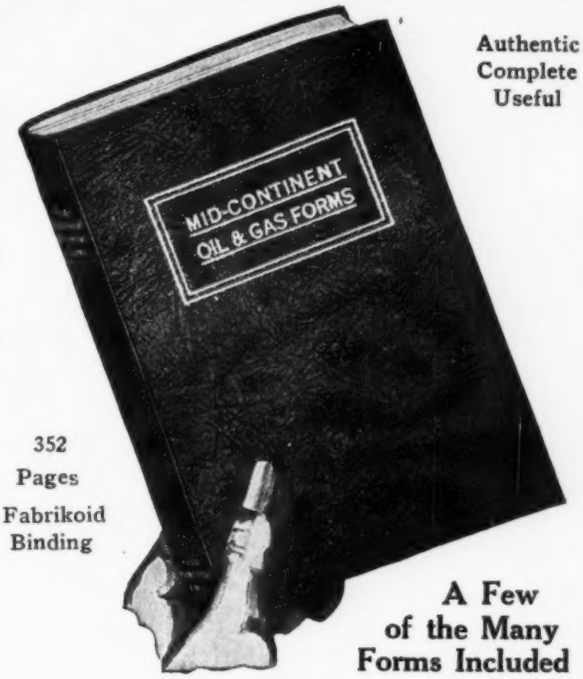

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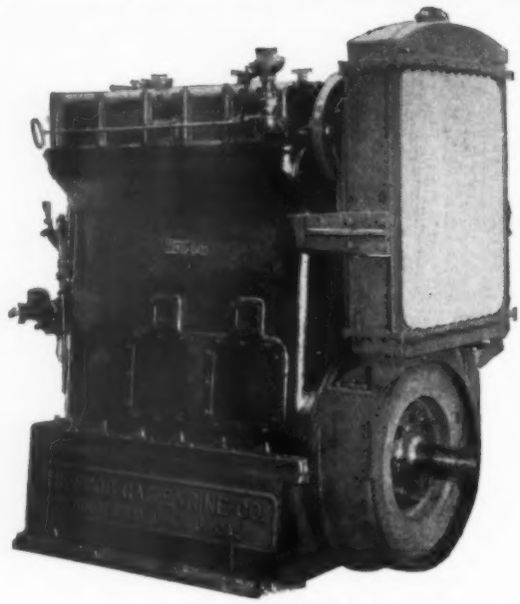

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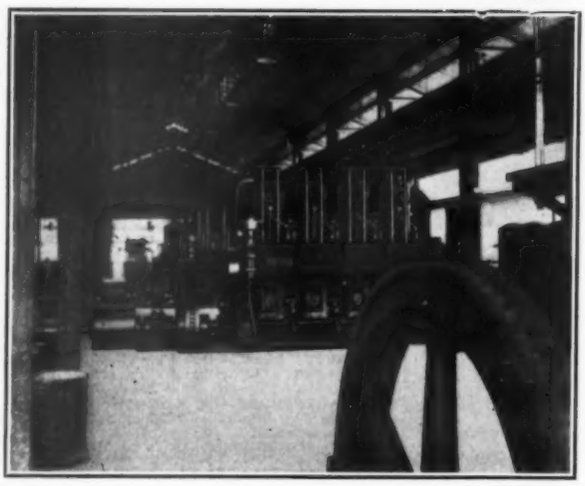

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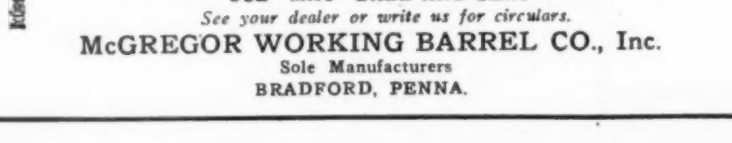

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drilling a test well or wells upon the land embraced in an oil and gas permit, he shall give notice to the supervisor of oil and gas operations, Geological Survey, of the district in which the land is situated of his intention to drill, submitting his drilling plan for approval, together with a bond, with qualified corporate surety, in the sum of $5000 conditioned against failure, (a) to carry on all operations in accordance with approved methods and practice and in conformity with the operating regulations to the satisfaction of said supervisor; (b) to carry out at the expense of the permittee, all reasonable orders of the Secretary of the Interior, or his authorized representatives; (c) to take all reasonable precautions to prevent waste of oil or gas, damage to formation or deposits, injury to life or property, or economic waste; and (d) to repair promptly, so far as possible, any damage to mineral deposits or mineral bearing formations resulting from his operations.

The notice of intention to drill and drilling plan must be furnished in triplicate. Blank forms of such notice and bond can be obtained from the supervisor on request. If the plan is approved and the bond is acceptable, the supervisor will return to the permittee one copy of the notice with his approval endorsed thereon, upon receipt of which drilling may be commenced and carried on in accordance with the approved plan.

The bond will be transmitted by the supervisor to the Commissioner of the General Land Office for consideration and filing.

All instructions and regulations in conflict herewith are modified to conform hereto, and Circular No. 754 is hereby revoked.

Dozen Wells Planned in Moe Pool

Great Falls, Mont.—The Moe pool, recently discovered in central Kevin-Sunburst field, is the scene of much activity. New locations are being made at a rapid rate, even though the roads are hardly open to traffic. The California Petroleum Company holds the largest acreage in the pool, and is drilling several wells after a successful completion. The area had been neglected during the early history of the field and was regarded for several years as dry territory. More than a dozen wells will be started during the month.

Doc Murray, well known oil field equipment salesman on the Pacific coast, is now associated with the Fuller Machine and Forge Works. Ed Shannon is working with Doc, and between the two of them, they plan to place Fuller Rex products in every oil field in the State of California, to say nothing of all the other fields in the United States. Doc Murray was formerly with Hillman and Cooney, and Ed Shannon was with the Standard Oil Company of California.

ne nw 15-8-6. Pure, Reed 16, sw se nw 14-8-6; Reed 15, nw ne sw 14-8-6. Mid-Kansas, Babb 1, nw se se 18-9-8. Carter, Strother 3, se ne se 34-9-6; Jackson 1, se sw ne 27-9-6. Gypsy, Carter 3, nw 24-9-6. Kingwood et al, Harjo 1, ne se se 22-9-6. Gypsy, Bud Carter 3, nw se nw 11-9-5. Amerada, Anderson 1-a, nw 15-9-5.

Stephens County—Gilmer et al, Stewart 2, nw se se 24-1-4. Magnolia, Hollingsworth 6, ne sw sw 14-2-5. Beard et al, Dierkes 1, se sw ne nw 3-2-8. Crace, Fransley 1, se sw ne 12-1-6.

Wagoner County—Mussellem, Soloman 3, se 29-16-16. Knox et al, ne nw 13-17-16. Williams, Hawkins 2, ne nw 32-16-18. Webb et al, Tiger 3, c n l ne nw 4-18-16.

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Rainbow Oil Co., 1, sw 3-26-113; No. 2, sw¼ 3-26-113.

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Midwest Refining Co. 1, nw 15-18-27.

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Bennington Bros. 1, nw 2-19-70. Texas production Co. 3A, sw 8-6-86; 1M, se 5-6-86. Phillips Pet. Co. 1, nw 27-16-25. Thomas, Slanovich & Thomas 1, sw 1-19-70.

MONTANA

Queen City Oil Co. 22, nw 4-24-2. Hill Oil Co. 4, se 21-35-2; 5, se 28-35-2. Cal. Pet Co. 7, se 9135-2; 4, ne 28-35-2; 5, ne 28-35-2; 6, sw 28-35-2. Ski-U-Mah Oil Co. 3, nw 33-35-1; 4, nw 33-35-1.

CALIFORNIA

Huntington Beach—Superior Oil Co. Eberle 1, 10-6-11. Globe Lease & Royalty Co. 2, 27-5-11. J. E. Hall 1, 10-6-11. Newton P. Jackson 1, 10-6-11. Crudoil Co., 8, 10-6-11; 10, 10-6-11.

Kern County—Muroc Dev. Co., Rosedale 2, 13-29-26.

Dominguez—Union, Callender 19, 33-3-13.

Lost Hills—Richfield, 2-A, 13-26-20.

Midway—Standard, 26, 7 and 45, 29-31-24. Midway Peerless Oil Co., 4-X, 15-31-22.

Montebello—Union, LaMerced 29, 2-2-12.

Mt. Poso—Midland Oilfields Co., Alta Vedder 1, 4-27-28.

Seal Beach—Universal Cons. Oil Co., Patterson 1, 3-5-12; Wolfe 1, 3-5-12. Craburn Oil Corp., 1, 3-5-12. General Pet., Wasem 1, 4-5-12; Wasem 2, 3, 4, 5, 6, and 7, 3-5-12; Wasem 8, 4-5-12. Ranbow Pet. Co., Gibson 1, 3-5-12. Geo. F. Getty, S. B. 1, S. B. 2, and S. B. 3, 3-5-12. Richfield, Bonner 1, 3-5-12; Reinhold 1, 3-5-12; Doyle 1, 3-5-12. Associated, Bryant 21, 11-5-12. Marland, McGrath & Selover 10, 3-5-12; Selover 11, 3-5-12. Bankline Oil Co., 1, 3-5-12. J. T. Robertson Co., 6, 3-5-12. Associated, Bryant 5, 11-5-12. Superior Oil Co., Kenkel 1, 3-5-12. Geo. F. Getty, S. B. 4, 5, 6, 7, 8, and 9, 3-5-12. California Pet. Corp., Alamitos 1, 2, 3, 4, and 5, 3-5-12; Hodges 1, 3-5-12; McMasters 1, 3-5-12; Bailey 1, 3-5-12; Lovell 1, 3-5-12. White-Hart Oil Syn., White-Hart 1, 3-5-12. Universal Cons. Oil Co., Judson 1, 3-5-12; Enloe 1, 3-5-12.

Santa Barbara County—Levi Smith 1-A, 3-4-29.

San Benito County—Betabel Fruit Farm, 1, Sub B. of Lot 6, Rancho of San Antonio.

Sespe—H. A. Ivers, 9 and 10, 1-4-20.

Ventura—Shell Co., Edison 15, 28-3-23.

Oil Sand at 3740 Feet in Rangely Field

Denver, Colo.—The Tidewater Associated Oil Company has tapped an oil sand below the gas sand in the Rangely field, according to reliable reports from the well. The oil sand was found at 3740 feet and was drilled more than 15 feet. There was no sign of water. The sand was tapped under heavy pressure and it will be necessary to remove the mud before a test is made. It is impossible to determine the saturation or the porosity of the sand until the well is cleaned out and the casing set. The Rangely field has been known for several years as a great gas field but has produced little oil—and none below the main gas sand. Shale production has been encountered at shallow depths and several small wells are now being pumped.

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Wide Track Crawler for Fordsons

The Belle City Manufacturing Company of Racine, Wis., has just put into production a wide track crawler for Fordson as a companion to their narrow track, which has been in successful use for some time, working under the various difficult conditions required of this type of tractive power.

The new model is styled standard gauge, and like the narrow gauge, is clutch controlled, has full Timken roller bearing equipment, Alemite-Zerk oiling system, drop forged threads and saw steel clutch discs running in oil.

The standard gauge has the same measurement between treads as between regular Fordson drive wheels, uses any standard drive pulley and accommodates any industrial equipment used on the wheel equipped tractor and that, without any special attachments.

The additional width of this model is obtained by substituting for the regular Fordson axle housings, internally ribbed steel housings of the same contour and with the grooves used for attaching equipment exactly the same distance apart as in the regular housings.

To provide a front end or third point of suspension for the tractor a heavy cast steel saddle or walking beam is pivoted on a shaft passing through the Fordson front axle stirrup and to this walking beam is bolted on either side heavy leaf springs whose outer ends are connected to the main frame assemblies by means of steel shackles.

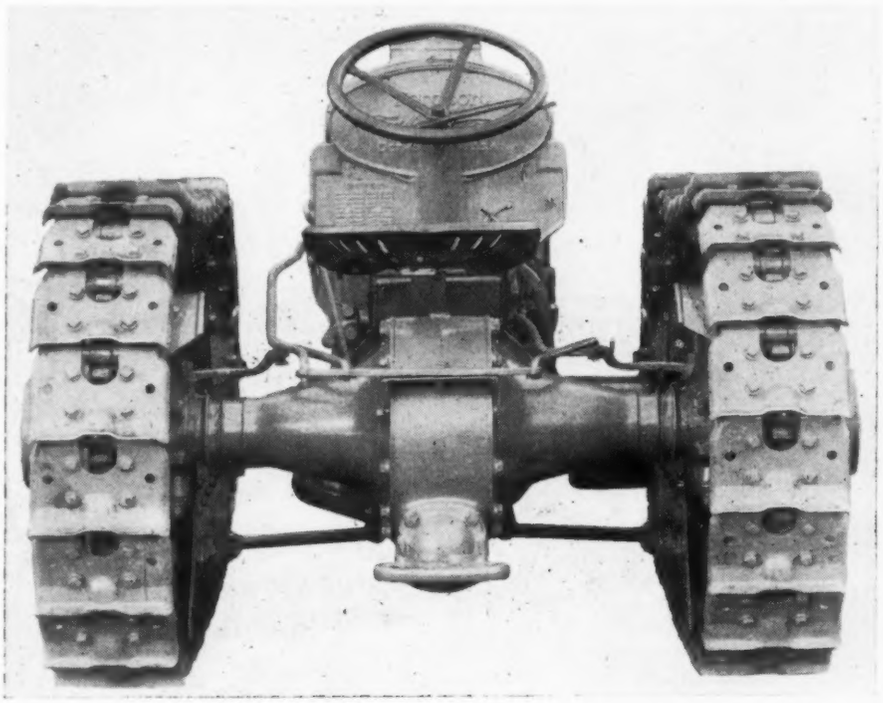
This assembly acts as a radius link and provides flexibility to the tracks.

When heavy equipment is attached to the crawler requiring a connection to or the support of the front axle, then the springs are replaced by heavy steel members attaching in the same manner as the springs. The steel axle is equipped with rubber bumpers which act as shock absorbers.

Ample additional strength and rigidity is given the main frame assemblies by the use of a 1½-inch special steel radius rod or spacer which connects these two assemblies passing under the tractor crank case.

Much stress is laid upon the accessibility of all working parts and the simplicity of design.

Additional data may be secured from the company, by request.



BELLE CITY CRAWLER DESIGNED FOR USE WITH FORDSON TRACTOR

Perfecto Burner Co. Opens Texas Office

Winfield, Kan.—Offices of the Perfecto Gas Burner Company, with headquarters and factory located here, have been opened at 1118 City National Bank Building, in Wichita Falls, Texas. Ed. Weyrich is in charge of the Wichita Falls territory.

Nor-Bro Tool Cleans Working Barrels

The Nor-Bro Spiral working barrel cleaner and standing valve tap, a new oil field tool made by Norris Brothers, Inc., Robinson, Illinois, and Fort Worth, Texas, is being recommended as a time and money saving device by its manufacturers.

The tap consists of a solid center stem with a spiral flange, threaded on both ends. It fits closely to the side of working barrel.

In operation the spiral flange scrapes all deposits from walls of the working barrel and is said to guide the tap to exact center. The spiral groove loosens, elevates, and holds in suspension sand-scale, lime, gyp, or other deposits from the top of the standing valve.

The tool is never revolved until it reaches bottom. As it is lowered through the barrel, the flanges do their work. On bottom the tool is revolved slowly and the spiral becomes effective.

The tap is made of carbon alloy tool steel and is heat treated to withstand heavy service.

More detailed information may be had by corresponding with the company at either address given above.

A. I. M. E. Publication Now Ready

Petroleum Development and Technology for 1926, the companion volume to that for 1925, issued last year by the American Institute of Mining and Metallurgical Engineers, will soon be ready for distribution. As the data this book presents on drilling and production in the oil fields of the world for the last year and their outlook for the future is in such immediate demand, the Institute is expediting publication with all possible speed.

This volume will contain the papers and discussion of the Tulsa and New York meetings of the Petroleum Division, A. I. M. E., of last October, 1926 and February, 1927. Besides the field data mentioned, the book will include the gist of the round tables, two on Engineering Research and two on Engineering Education problems, and the following symposiums.

Petroleum Economics, dealing with the place of petroleum in industry, by Arthur Knapp, and the economic situation of gasoline, natural gas gasoline, fuel oil, lubricating oil and tankers, respectively by Barnabas Byrant, Jr., G. R. Hopkins, C. Campbell Osborn and C. J. Deegan, W. F. Parrish and J. V. Blake.

Refining, in which are presented the paper by Jacques Morrell and Gustav Eggloff, "Highly cracked gasolines and high-sulphur content," with discussion, and recent developments in fractionation and refining, papers on which were

NEW MERCO-NORDSTROM PLANT AT OAKLAND, CALIFORNIA

given by C. L. Smith, E. R. Lederer, J. W. Poole and Luis de Florez.

Production Engineering begins with "Some new aspects of the gas lift," by E. O. Bennett and K. C. Sclater. Among its 10 very timely papers are those on surface tension factors developed in flotation reserach as applied to the flow of crude oil, by A. W. Fahrenwald, and core studies of the second sand of the Venango group, by C. R. Fettke.

The Corrosion Symposium includes papers such as "Use of ferrous alloys to prevent corrosion," by J. A. Mathews, the results of an investigation of corrosive effect of soils, by Kirk H. Logan, a study of the causes and prevention of corrosion, by R. Van A. Mills, and discussions of corrosion in pumping equipment, pipe lines, gasoline plants, refineries and pressure stills.

Further information and copies can be secured from the American Institute of Mining and Metallurgical Engineers, 29 West 39th Street, New York City.

Oil Company Auditors Form Company

San Antonio, Texas.—Effective April 1, E. E. Weise and D. C. McBride opened offices in the Frost National Bank Building here, to engage in public practice as organization engineers. The firm's corporate name is Weise, McBride & Company.

The company will specialize in audits, industrial surveys, systems, and income tax service.

Both Mr. Weise and Mr. McBride have had many years experience in engineering and audit work. For the past several years they have been with the United North and South Oil Company at Luling. While with this company they worked out a system of oil company accounting that proved to have many superior features.

Valve Company Builds Plant in Oakland

Oakland, Ca.if. — Another industrial plant, the facilities of which will be largely devoted to the manufacture of valves for the gas industry, has been established on the Pacific Coast.

Heretofore, Meco-Nordstrom plug valves have been manufactured on the Atlantic seaboard, but the executives of Merco-Nordstrom Valve Company, recognizing the increasing demand for their product in western America, came to the conclusion that business conditions warranted the establishment of a complete manufacturing plant on the Pacific Coast, thus permitting of economical distribution to all parts of America.

The new factory is located in Oakland, Calif., at the corner of 24th and Peralta Streets, having an area of approximately 30,000 square feet and the installation of machinery is now under way, so that actual production can begin within a few weeks, according to the announcement of H. S. Shuey, secretary-treasurer of the firm. The factory will have every facility for the manufacture of plug valves in every different type.

Little more than 10 years ago Merco-Nordstrom valves were unknown. In 1916, a mechanical engineer, Sven Johan Nordstrom, working for a mining company in Mexico, observed that many serious troubles were being experienced in handling liquids of various character and air under pressure, due to the leaking and sticking of valves. He conceived the idea of introducing lubricant under pressure thoroughly covering the bearing surfaces of the plug so that the pressure of the plug itself would offset any pressure coming through the line. His invention of the Meco-Nordstrom valve was the beginning of very rapid development and other industries soon adopted the valve. At the present time the valve is perhaps represented in 100 or more industries.

In 1918 engineers of the Merrill Company entered into an agreement with the inventor to actively develop and introduce the valve. The manufacture and distribution was conducted by the Merrill Company until 1923, when the business became such a large part of its work that it was found feasible to incorporate a separate company.

Since the establishment of the Merco-Nordstrom Valve Company, which is a subsidiary of the Merrill Company, all of the manufacturing has been carried out on the Atlantic seaboard, but with the completion of the new Oakland plant, the two factories will be operated.

Representatives' offices are maintained in San Francisco, Chicago, Cleveland, New York City, Houston and New Orleans.

The officers of the company are: Charles C. Broadwater, president; Sven Johan Nordstrom, vice president; Herbert S. Shuey, secretary and treasurer, all of whom are directors of the company, the other directors being Charles W. Merrill and Louis D. Mills, the former president, and the latter consulting engineer of the Merrill Company.

Chain Bulletin for Distribution

Baldwin Precision Oil Well Chains, made by the Baldwin Chain and Manufacturing Company, Worcester, Mass., are described in bulletin No. 32A, recently published. The catalog is complete and gives information about the manufacture of these chains. Considerable space with illustrations is also given concerning repair of these chains.

Copies of the bulletin will be mailed, on request to the company, or to George J. Fix Company, 2507 Commerce Street, Dallas, Texas. Local supply houses can also provide these chains.

Larger Quarters for Zero Hour Torpedo

Tulsa.—General offices in Tulsa of the Zero Hour Torpedo Company now are located at 408 Cosden Building, where increased space is afforded. The need for larger quarters has been made necessary by the increase in the company's business, according to W. J. Cheley, president and the directing head of the organization.

The company maintains special service men at Seminole, in Oklahoma, and at Borger and Cisco, in Texas. Bert McCall is in charge at Cisco, George Pascoe, in Seminole and Howard Clup in Borger.

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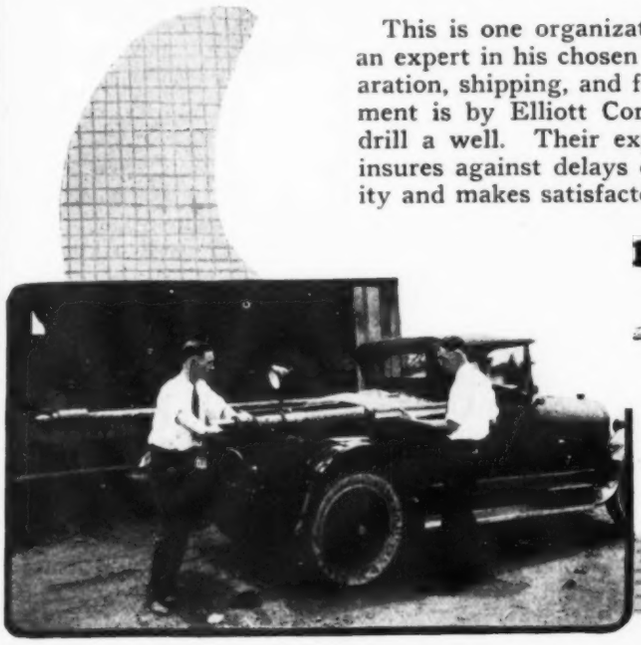

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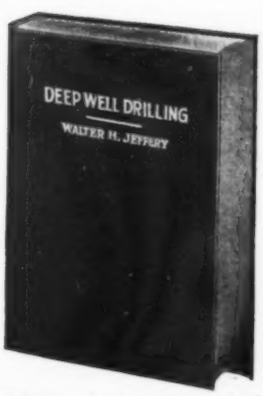
Second Revised Edition

Just Off the Press

By Walter H. Jeffery



An up-to-date handbook on well drilling by the methods most generally used: cable, or standard, rotary, combination cable and rotary, and diamond drilling. Includes chapters on Geology, Use of Mud Fluid, Casing Methods, Use of Packers, Cementing, Electrical Drilling and Pumping, Shooting, Completing the Well by Modern Methods, Costs of Drilling, Strength of Materials, Etc. A valuable book for the technical school, for the student and for the driller and operator.

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Tulsa, Okla.

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National Pigments & Chemical Co.
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CULLED FROM THE NEWS

By Kent Ridley

Oklahoma producers come dangerously near putting themselves in the attitude of the Middle West farmers when they go to the State for relief from an economic condition not to their liking. Trouble the jobbers have had with States trying to control the oil business is example enough that the producer should be warned to let the governmental authorities at least take the initiative on a deal like that. And in the case of Seminole, we all admit that it would be better to not have so much oil, but is it right to penalize efficiency?

* * *

Mexico threatens to confiscate some oil lands and we are almost ready to go to war with her. We say they should not make laws retroactive. Here in Texas the State is suing for a piece of land in the Humble field which has been owned, claimed and operated for at least 20 years, and not only would confiscate the land but also collect for all the oil it produced, with no refund allowance for taxes paid. This item hardly gets mention in the newspapers, even after the legislature quits.

* * *

Humble seems to be sitting pretty in the center of 14,000 acres of East Texas woods, and with an opportunity for "unit operation" that would curl Mr. Doherty's whiskers, they can not resist shipping in a few more rigs. They say, though, that they will drill wells and cap them. The first thing we can remember hearing about the oil business was that the Standard Oil Company had found oil and capped the well. Is it going to be true this once?

* * *

R. S. Sterling as chairman of the Texas State Highway Commission was one of those who insisted that the gasoline tax in Texas should be raised to its present three cents. His action dispels or disapproves one and maybe both of two impressions; one that his public service in Houston and Texas is for the benefit of Standard Oil interests, and the other that those interests oppose the gasoline tax as a means of road construction. Sterling said when he left the Humble that it was to give him more time for public service, and as head of the road body of Texas and the port commission at Houston he is at least giving his time to the direction of spending a lot of money.

* * *

E. W. Marland whose efforts as a writer of conservation laws threatened for a time to over-shadow his fame as the head of the international organization which bears his name, breaks into print in another sector by posing for a picture with Judge Lindsey of Denver which was printed in a popular national magazine. By doing so he has proven it is possible to get your picture in the magazines without eating yeast.

* * *

According to the Wall Street Journal, plans for the formation of a new holding company to function as the owner of various oil securities are still in the embryonic stage. Probably the bankers are interested in a holding company for stocks, but all the industry needs right now is something to hold Seminole and the Panhandle.

So far the oil companies have not been named as the cause of the trouble in China. But probably if the Senate was in session some member would rise to point out that the big purveyors of kerosene had instigated the trouble to encourage the use of their product—as it is well known (to a senator) that war conditions always facilitate the business of foreign companies operating in the warring country.

* * *

A news item says that production from a well in Cuba is selling for $5.04 per barrel. The same figure represents the number of scouts who would like to go down and scout that well. (P.S.—All of them have not heard about it.)

* * *

The Texas Company is drilling Abraham 1 in Creek County, Oklahoma. That combination of names made some record in West Columbia, and here is an opportunity to know if there is anything in a name.

* * *

> We suppose the lawyers understand it perfectly, but what puzzles the lay mind a little is how Mr. Doheny got all his leases from Mr. Fall by fraud and corruption, but nobody's guilty.—Ohio State Journal.

Nor can they understand how the navy can take those tanks and oil wells over that constitutional mention of "due process of law," or if it is the law, what has become of equity.

* * *

Arthur Knapp who writes learnedly of "Preferential Uses of Petroleum," marks this for us in a volume on "Petrolia", written by Cone and Johns, and published in 1870: "It is something to know that a cargo of Petroleum may navigate a river, cross a lake or ocean, in a vessel propelled by steam it has generated, acting upon an engine it lubricates, and directed by an engineer who may grease his hair, anoint his body, perfume his clothing, enrich his food, rub his bruises, freshen his liver and waterproof his boots with the same article." And with all those uses there still seems to be too much.

* * *

The United States government which at times has shown some interest in the matter of conserving the oil supply, might find a good example in the action of the Waggoner Interests in suspending drilling obligations which it imposed upon holders of leases on the Waggoner Ranch in the Panhandle at the time the lease was made. Of course a little tract like a Texas ranch of 267,500 acres does not compare much with what the government controls as trustee and otherwise, even if this ranch is in Wilbarger and Wichita Counties. But if interests with just a little more than a quarter-million acre can recognize that it is more profitable to hold the oil in the ground when prices are low, there ought to be some department of the government that could arrive at the same deduction. But if the law says to sell Indian leases regardless and then drill them, of course there is no way to change it.

COMMISSIONER'S SALE

THE COMMONWEALTH OF KENTUCKY

Allen Circuit Court

No. 3473

Richard C. Baker, Plaintiff,

Versus

Inter-Cities Oil Co., Defendant.

NOTICE OF SALE

By virtue of a judgment and order of sale of the Allen Circuit Court, rendered at the January Term thereof, 1927, in the above cause, for a settlement of the affairs of the Inter-Cities Oil Co., I shall proceed to offer for sale at the Court House door in the City of Scottsville, Kentucky, to the highest bidder, at public auction on Monday, the 11th day of April, 1927, at One o'Clock, P. M., or thereabout (being County Court Day), upon a credit of 3 and 6 months, the property of the Inter-Cities Oil Co., being an up-to-date Oil Refinery, with all property and accessories, including pipe lines, usual and common to such properties.

The personal property will be sold in units at the Refinery at Scottsville, Kentucky, and small bidders will therefore have a chance to buy such articles as they may need. Invertory may be seen at the office of the Undersigned.

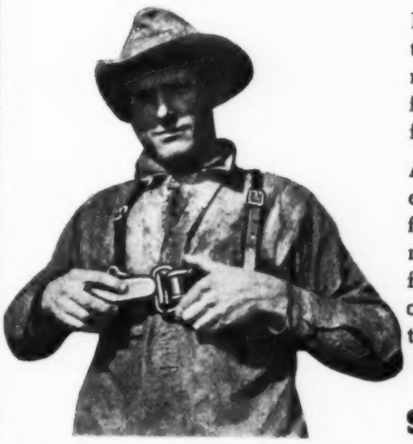
Purchasers may pay cash at their option, or execute usual bond.

Witness my hand this 21st day of March, 1927.

G. W. WEAVER,

Master Comr., Allen Circuit Court

The Texas Safety Belt



Men might be fatally burned by not being able to free themselves from their belts.

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We also manufacture the regular type Derrickmen's belts with buckles.

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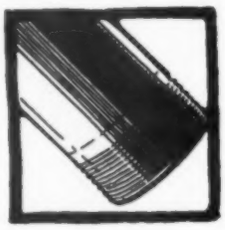

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SEAMLESS STEEL
CASING

CASING collapsing through inherent weakness or corrosion—failure at great depths, are all well known hazards of oil well operation.

The use of American Seamless Steel Casing is the highest form of economy and offers the greatest protection and safety against any kind of failure from any cause, at any depth.

The superior materials used in its manufacture—the superior methods of manufacture and the minute attention to finish and inspection of every length, are factors which make American Seamless Steel Casing the best for all—and more than the most hazardous operation requires.

Literature, prices and data on request.

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SQUEAKS FROM THE BULL WHEEL

1928-B Model

This one was told at the recent meeting of the Chamber of Mines & Oil, held in Los Angeles recently:

Moses and Mandy had been in the employ of the Old Judge so long that they had looked up to him more or less for guidance in matters which were continually threatening to throw their domestic life on the rocks.

Mandy, the old colored cook, came to the judge one day complaining about how Moses had been trifling.

"Jedge, dat Moses ain't been treatin' me right lately. I presses his clothes, I cooks fo' him, I does eve'thing a good nigger ought to do for her husban', but he will not stay at home any mo' at night. He has been runnin' aroun' with some ob dese heah flapper niggers. Jedge, I wish yo' would tell him about it and tell him dat ain't no right way to treat his wife."

The next day Judge called in Moses, and the darky appeared sheepishly, hanging his head.

"Moses, what's this I hear about running around with these young women at night? You know it's not right to treat Mandy that way after she has stood by you all these years."

"Yas, suh, Jedge, I spec you's right."

Then the Judge offered the following solution:

"Moses, you remember that about three months ago you had your old flivver cleaned up and had the dents taken out and a new top put on it? And she looked just as good as new. Now, you take Mandy down to one of these beauty parlors and have them straighten out the kinks in her hair and massage the wrinkles out of her face and paint her all up. Mose, when she comes out of that beauty parlor you won't know her. She'll be just as pretty as any of these young flappers you have been running around with at night."

"Yas, suh, Jedge, I knows dat. But when I takes her home, it'll be jes' like de Fo'd. She'll have the same old chassis!"

Knew Sheep

A city young woman went out to teach a country school. The class in arithmetic was before her. She said: "Now children, if there are 10 sheep on one side of the wall and one jumps over, how many sheep will be left?"

Then up piped a little tow-headed daughter of a farmer: "No sheep, teacher, no sheep."

"Oh, oh," cried the teacher reproachfully. "You know better than that! Think again. If there were 10 sheep on one side of the wall and one jumped over, nine would be left."

"No! persisted the child. "If one sheep jumped over all the others would.

That's How It Was

"Do you act towards your wife as you did before you married her?".

"Exactly. I remember just how I used to act when I first fell in love with her. I used to hang over the fence in front of her house and gaze at her shadow on the curtain afraid to go in. And I act just the same way now when I get home late."—Aberdeen Beacon.

Sure, That's It

Girl Friend—Do you know why I refused you?

Boy Friend—I can't think.

Girl Friend—You guessed it.

Educated Calf

Old "Si" Hoskins by heck!—was approached by a flighty young female from the city who desired to buy some milk from him. "Wa'l," drawled the good peasant, "I'm fifteen quarts short this mornin'." The young calf got in the barn last night and drunk 'em up!" "Oh, Mr. Hoskins!" exclaimed Miss Lovejoy, "how did it ever get the tops off the bottles?"

Nearly Through

As the lecturer paused after a well-rounded period, a blear-eyed man arose and inquired:

"Shay, how long have you been lecturin'?"

"About four years, my friend," was the reply.

"Well," remarked the questioner as he sat down, "I'll stick around; you must be near through."

Such a Good Chance

Mrs. Henpeck — Joseph, you were talking in your sleep last night.

Mr. Henpeck—Was I? Sorry I interrupted you, my dear.

Doctor (noticing a squalling pickaninny on the floor): "Mandy, that baby is spoiled, isn't he?"

Mandy: "No, suh, Doctuh, all little cullud babies smells like dat."

Wise

Ted—I saw my doctor about my loss of memory.

Jerry—What did he do?

Ted—Made me pay in advance.

Clarion Notes

Building Foreman—Excuse me, but are you the lady wot's singing?

Lady—Yes, I was singing. Why?

Foreman—Might I ask you not to hold the high notes so long? The men have knocked off twice, mistaking it for the noon whistle.

"Does a smile mean you forgive me?"

"Stay away, niggar. I's just smilin' to rest mah face."

THESE power heads are totally enclosed, self-lubricating, with gears operating immersed in a bath of oil, making a very quiet and smooth running power head.

The massive main frame serves as a compact housing and a rigid support for all the working parts. The main gear is driven through a pinion which actuates a crank shaft, which in turn actuates an all-steel walking beam which operates the crosshead. This power head may be slid back upon its base, which permits the removal of the rods and drop pipe without tearing down the installation or disturbing the pipe connections.

While illustration shows motor drive, these power heads can also be successfully operated with a gasoline engine.

They are made in both 18-in. and 24-in. stroke

These heads are more fully described in bulletins, furnished on request.

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On No. 2 well Margaret J. Maxwell Lease, we have tried practically every make Ball and Seat without success, getting less than a month's service from any of them. Putting in NO-CO-RO Drops and Seats, we have obtained a year and a half service in this same well and they are still working 24 hours a day.

"Very truly yours,"
(Name on request)

Combine this record with the equally remarkable records we have detailed in these ads; couple it with our guarantee (double the service of the best Ball and Seat you have ever used, or money back); then decide whether it is good business to delay for a single day the revolutionary savings that the NO-CO-RO DROP and Seat effects

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